

CEKENAS END OF TERM TWO EXAM – 2023

443/1

AGRICULTURE PAPER 1

JULY/AUGUST 2023

SECTION A: 30 MARKS

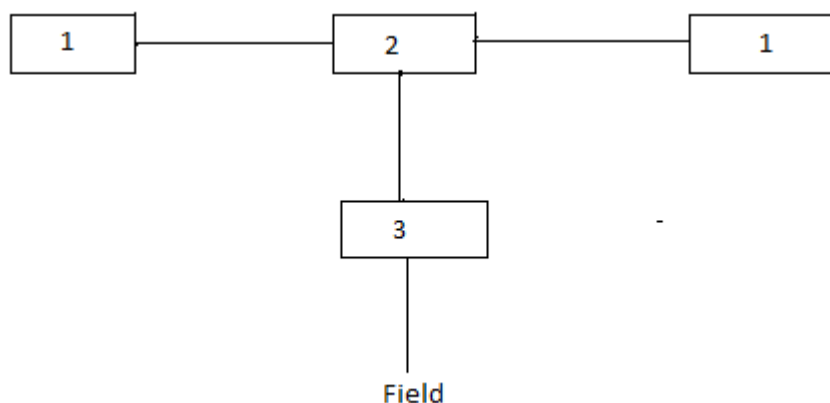
Answer all questions in this section in the spaces provided

1. Give four reasons why farmers are encouraged to practice organic farming (2marks)
2. Distinguish between GDP and GNP (2marks)
3. What is meant by the following terms (2marks)
 - (i) Seed inoculation
 - (ii) Seed dressing
4. Name four types of terraces (2marks)
5. Name the routine field practice done by;
 - (a) Removal of extra suckers in a banana stool (1mark)
 - (b) Removal of old stems down to level of top foliage in pyrethrum (1mark)
 - (c) Removal of suckers from coffee bushes (1mark)
6. State three characteristics of phosphatic fertilizers (1.5marks)
7. Explain the relationship between scarcity and choice as used in agricultural economics (1mark)
8. Outline four ways by which crop pests are classified (2marks)
9. State four advantages of land consolidation (2marks)
10. Outline three benefits derived from trees used in agroforestry (1½marks)
11. State four practices which improve light intensity in crop production (2marks)
12. Give four factors that influence the quality of hay (2marks)
13. Outline two other methods of conserving forage in the farm (1mark)
14. State four factors that determine the demand of a commodity in a free market (2marks)
15. Give four varieties of tomatoes grown for processing (2marks)
16. State two advantages of mixed farming (1mark)
17. Name any two land tenure systems practiced in Kenya (1mark)

SECTION B: 20 MARKS

Answer all questions in the spaces provided

18. Illustrated below is a method of turning compost. Study the method and answer the questions that follow.



- (a) Identify the method (1mark)
- (b) Using arrows in the diagram, show how the turning is done before the manure can be taken to the field (2marks)
- (c) After how long should the compost be ready for use (1mark)

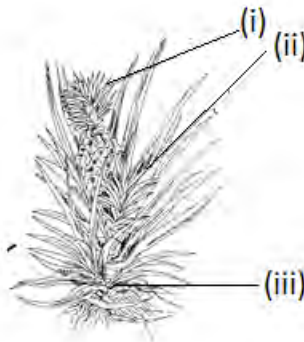
(d) Apart from the above named type of organic manure, name any other two types of organic manure (1mark)

19. Below is a diagram of a tertiary operation. Study it and answer the questions that follow.



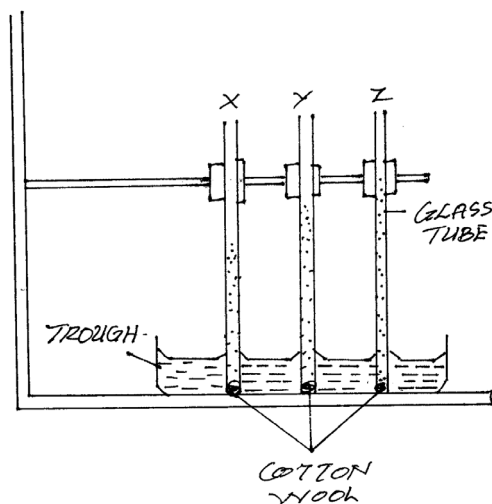
- i) Name the operation (1mark)
- ii) Explain the process of performing the operation (1mark)
- iii) Name the implement that can be used to achieve the operation (1mark)
- iv) State the importance of carrying out the operation (2marks)

20. Below is the diagram of a planting material. Study it and answer the questions that follow.



- (a) Label the parts labelled i, ii and iii (3marks)
- (b) State two factors that determine seed rate (2marks)

21. Below is the set up of three different types of soil.



- (a) State the aim of the experiment (1mark)
- (b) State two ways of improving the soil structure labelled Z (1mark)
- (c) Name three processes of rock weathering (3marks)

SECTION C: 40 MARKS

Answer any two questions from this section.

22. Study the following information which was extracted from Mr Kibui’s farm records on 30th November 2022 and answer the questions that follow.

| | |
|------------------------------|-------------|
| Loans payable to bank | Ksh.300,000 |
| Five milking cows | Ksh.250,000 |
| 400 layers | Ksh.80,000 |
| 20 goats | Ksh.30,000 |
| Debts payable to cooperative | Ksh.20,000 |
| Buildings and structures | Ksh.600,000 |
| Bonus payable to workers | Ksh.19,000 |
| Cattle feed in store | Ksh.10,000 |
| Animals drugs in store | Ksh.4,000 |
| Breakages to repair | Ksh.30,000 |
| Cash at hand | Ksh.20,000 |
| Cash in bank | Ksh.30,000 |
| Spray equipment | Ksh.12,000 |
| Debts receivable | Ksh.18,000 |

- (a) Prepare a balance sheet for Mr Kibui’s farm using the information above (8marks)
- (b) Was Mr Kibui’s business concern solvent or insolvent (1mark)
- (c) Name any other financial statement that can be found in Mr Kibui’s farm (1mark)
- (d) Describe five factors to consider in siting farm structures (10marks)
23. (a) Describe the procedure of silage making (5marks)
- (b) State five effects of wind on crop production (5marks)
- (c) State five precautions that should be observed when harvesting cotton (5marks)
- (d) Why should it be advisable to use a nursery in crop production (5marks)
24. (a) State five ways through which a farmer can adjust to risks and uncertainties in farming (5marks)
- (b) Describe the marketing functions in agricultural economics (5marks)..
- (c) Describe the safety precautions a farmer should take when using herbicides (5marks).
- (d) Explain five physical methods of pest control (5marks)

CEKENAS END OF TERM TWO EXAM – 2023

443/2

AGRICULTURE PAPER 2

JULY/AUGUST 2023

SECTION A: 30 MARKS

Answer ALL questions in this section in the spaces provided

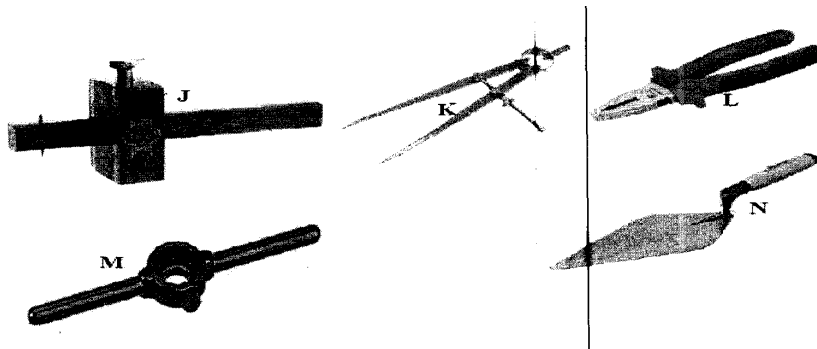
- State four features of a good pig house (2marks)
- State four features of large white breed of pigs (2marks)
- Name three stages of liver fluke which occurs in the fresh water snail (1½marks)
- State four reasons for controlling livestock diseases (2marks)
- Name four factors which determine the maintenance requirements of an animal (2marks)
- Give four ways of stimulating milk let down in a dairy cow (2marks)
- Distinguish between the following pair of terms as used in livestock production
 - Ringling and crutching (1mark)
 - Steaming up and flushing (1mark)
- Give four reasons for maintaining a wheel barrow in good working condition (2marks)
- State four symptoms of Newcastle disease in poultry (2marks)

10. State four disadvantages of a tractor as a source of power (2marks)
11. Give four conditions that reduces the quality of eggs for hatching (2marks)
12. Name three methods that are used in selection of breeding stock in livestock production (1½marks)
13. State four construction features necessary in a fish pond (2mark)
14. Give an appropriate terms that refers to each of the following
 - (i) Castrated chicken (½mark)
 - (ii) Young one of a rabbit (½mark)
15. State four methods of dehorning (2marks)
16. State four disadvantages of in breeding (2marks)

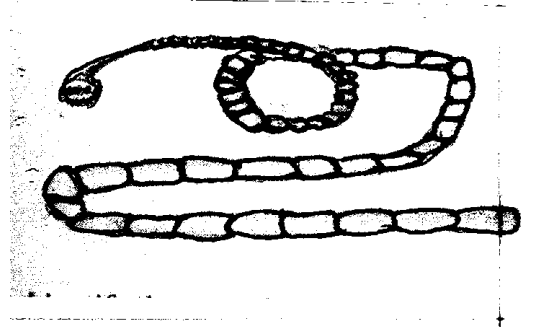
SECTION B: 20 MARKS

Answer ALL questions in the spaces provided

17. The diagram below represents farm tools and equipment. Study them and answer the questions that follow

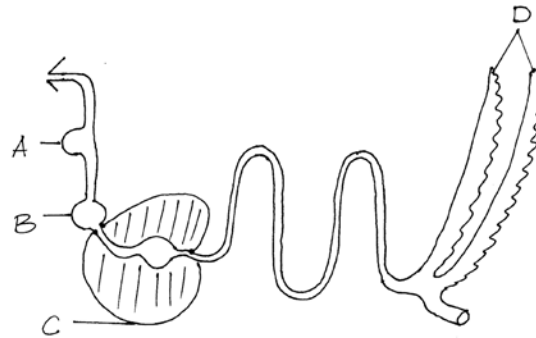


- (a) Identify the tools and equipment J and K (2marks)
 - (b) State the uses of tools labelled L, M and N (3marks)
18. The diagram below shows a livestock parasite

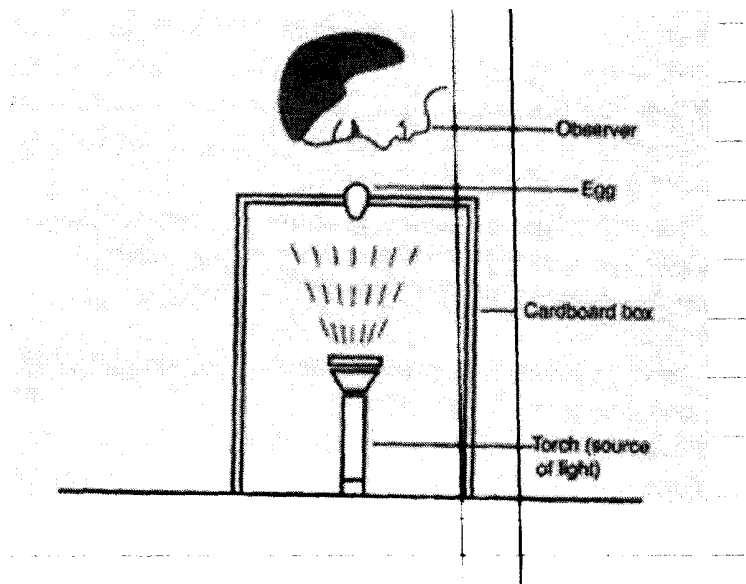


- (a) Identify the parasite (1mark)
- (b) Explain how the parasite can be passed from;
 - (i) Livestock to human beings (1mark)
 - (ii) Human beings to animals (1mark)
- (c) State two control measures for the parasite in a zero grazing unit (2marks)

19. Study the diagram below and answer the questions that follow



- (a) Identify the parts labelled B & D (2marks)
 - (b) State the function of part labelled A (1mark)
 - (c) State two adaptations of parts labelled C to its function (2marks)
20. Below is an illustration of an activity carried out by a poultry farmer keeping layers



- (a) Give one reason for carrying out the practice in poultry layering (1mark)
- (b) State two faults which can be detected using the method illustrated above (2marks)
- (c) How can a farmer improve the following in poultry production
 - (i) Hardness of egg shell (1mark)
 - (ii) Yellowness of egg yolk (1mark)

SECTION C: 40 MARKS

Answer any **TWO** questions from this section in the spaces provided after question 23

- 21. (a) Describe **Ten** causes of low egg production in layers (10marks)
- (b) Discuss foot and mouth disease under the following headings:
 - (i) Causal organism (1mark)
 - (ii) Livestock species attacked (2marks)
 - (iii) Symptoms of attack (4marks)
 - (iv) Control measures (3marks)
- 22. (a) Outline **five** advantages of artificial insemination in cattle management (5marks)
- (b) Explain **five** factors that a farmer should consider when sitting a bee hive to prevent swarming (5marks)
- (c) Explain **five** precautions taken by dairy farmer to ensure clean milk production (10marks)
- 23. (a) State **five** characteristics of light breed of poultry (5marks)

- (b) Describe the operation of a four stroke cycle engine (12marks)
 (c) State three good hygiene practices in livestock feeding (3marks)

EASTERN CLUSTER EXAMINATION – 2023

443/1

JULY/AUGUST 2023

AGRICULTURE PAPER ONE

SECTION A (30Marks)

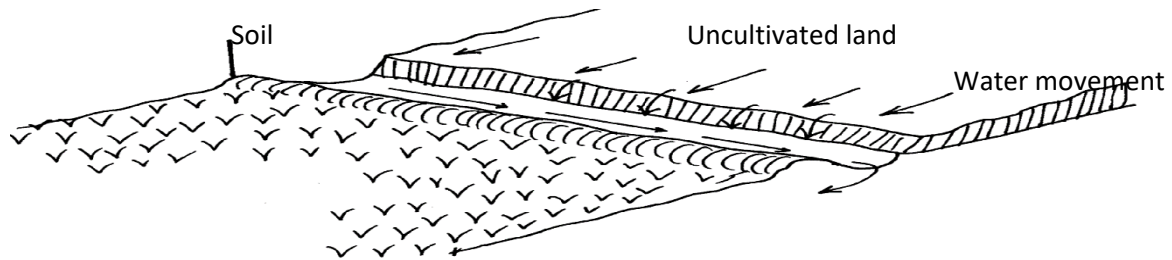
1. What are the **three** aspects of light that are important to a farmer? (1½ marks)
2. Outline **three** ways of preparing materials before planting. (1½ marks)
3. List **four** advantages of timely planting. (2 marks)
4. State **two** practices done during hardening-off of seedlings in a nursery bed. (1 mark)
5. Give **three** agricultural practices which lead to water pollution. (1½ marks)
6. Give the form in which the following elements are absorbed by crops. (1 mark)
 - i) Sulphur-
 - ii) Nitrogen-
7. Outline **four** sources of capital in the farm. (2 marks)
8. State **four** roles of organic matter in sandy soils . (2 marks)
9. Name **one** crop that is propagated by each of the following.
 - a) Stem tuber - (½ mark)
 - b) Split - (½ mark)
 - c) Slip- (½ mark)
10. Give **four** factors that can increase seed rate in crop production. (2 marks)
11. List **four** methods of farming. (2 marks)
12. State **four** details that may be contained in an invoice. (2 marks)
13. Give two examples for each of the following types of cost incurred in broiler production. (2marks)
 - a) Fixed cost-
 - b) Variablecost -
14. List **four** post-harvest practices that are carried out in maize production. (2mks)
15. Under which type of farm records should each of the following items be entered? (2mks)
 - i) Date of ploughing-
 - ii) Milk yield -
 - iii) Date cow was served –
 - iv) Vaccination against Newcastle disease-
16. Give **four** ways in which land consolidation helps to improve land management. (2mks)
17. State **four** advantages of drip irrigation in a farm. (2mks)

SECTION B (20Marks)

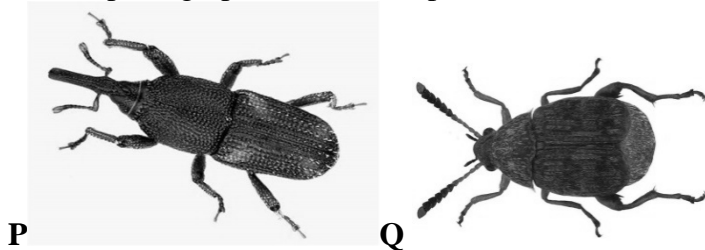
18. A plot of land measures 6.6m long by 3.6m wide. This plot is prepared for planting cabbages at a spacing of 60cm by 60cm. The outermost rows start at 30 cm from the edges all around the plot. Showing your working, calculate:
 - (i) The number of the rows falling on the width side of the plot. (2mks)
 - (ii) The number of cabbage seedlings that should be planted on the plot . (3mks)
19. The following are illustrations of tea pruning methods. Study them carefully and answer the questions that follow.



- (a) Identify the pruning methods illustrated above . (2 marks)
 (b) Give **three** reasons for pruning tea. (3 marks)
20. Below is a diagram showing soil erosion control method.



- Cultivated land with crops
- a) Identify the structure used to control soil erosion. (1mark)
 b) What is the function of the structure shown in the diagram above? (1 mark)
 c) State **three** effects if water was allowed into the cultivated land. (3marks)
21. Below are photographs of common pests. Use them to answer the questions that follow.



- a) Identify the pests above P & Q (2 marks)
 b) Describe the damage caused by pest **P**. (1 mark)
 c) State **two** ways of controlling the pests (2 marks)

SECTION C (40Marks)

Answer any two questions in this section

22. (a) Describe **seven** cultural methods of controlling pests in crops. (7 marks)
 (b) Explain management practices carried out on an agro-forestry tree nursery. (8 marks)
 (c) Explain **five** advantages of grass-legume pasture over pure grass pasture. (5 marks)
23. (a) Describe **seven** cultural methods of weed control. (7 marks)
 (b) Explain **six** advantages of crop rotation. (6 marks)
 (c) Discuss the harvesting of pyrethrum under the following sub headings.
 (i) Harvesting procedure. (4 marks)
 (ii) Precautions during harvesting. (3 marks)
24. (a) The following information was extracted from Makini Farm Records for the financial year ending on 30th June 2022. Use it to prepare a profit and loss account for the farm. (6 marks)
- Rent received Sh. 10,000
 - Egg sale Sh. 60,000
 - Repair of tractor Sh. 30,000

- Opening valuation Sh. 80,000
- Interest on Bank loan Sh. 20,000
- Tax paid Sh. 40,000
- Closing valuation. Sh. 90,000
- Purchase of farm inputs Sh. 90,000
- Debts receivable from farmers' co-op society Ksh 100,000
- Maize sales Sh. 55,000

- (b) State **four** benefits of a farmer having land title deed. (4 marks)
- (c) Outline disadvantages of monocropping. (5 marks)
- (d) Outline **five** factors which determine the quality of hay. (5 marks)

EASTERN CLUSTER EXAMINATION – 2023

443/2

JULY/AUGUST 2023

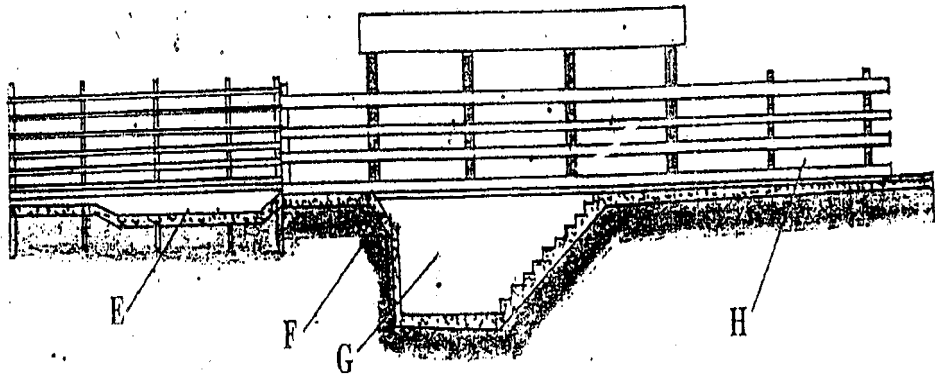
AGRICULTURE PAPER TWO

SECTION A: (30 MARKS)

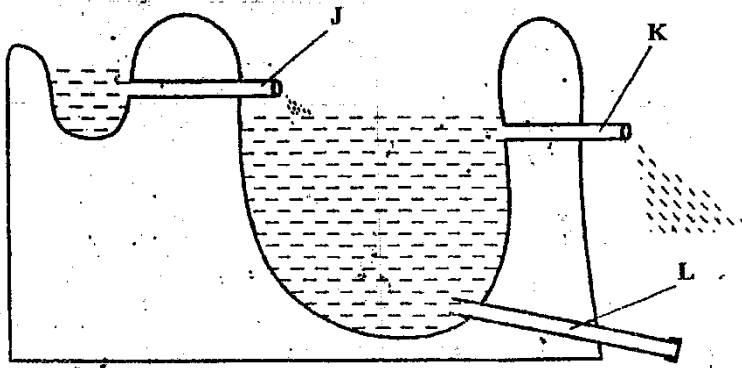
1. State **four** roles of a worker bee (2mks)
2. Name **two** tools used for cutting galvanized iron pipes. (1mk)
3. State **four** maintenance requirements of a jackplane (2mks)
4. List **two** tools used for laying concrete blocks when constructing a wall (1mk)
5. How does crossbreeding improve livestock production? (1mk)
6. State **four** disadvantages of natural mating as a method of breeding in dairy cattle management. (2mks)
7. Name **four** systems of a tractor engine (2mks)
8. What is dry cow therapy? (1mk)
9. State **four** maintenance practices of a disc plough (2mks)
10. Give **two** reasons for using litter in a poultry house (1mk)
11. State **four** disadvantages of fold system in poultry rearing (2mks)
12. State **four** practices that come immediately after complete milking in a milking shed. (2mks)
13. State **two** ways of restraining cattle during routine management (1mk)
14. Distinguish between the following practices as used in livestock production.
 - (a) Crutching and Ringing in sheep management. (1mk)
 - (b) Cropping and harvesting in fish farming. (1mk)
15. State the gestation period for each of the following.
 - (a) Cow: ($\frac{1}{2}$ mks)
 - (b) Sow: ($\frac{1}{2}$ mks)
 - (c) Ewe: ($\frac{1}{2}$ mks)
 - (d) Rabbit: ($\frac{1}{2}$ mks)
16. State **four** causes of egg eating in a flock of layers (2mks)
17. State **four** signs of broodiness in a hen (2mks)
18. List **four** categories of livestock diseases. (2mks)

SECTION B: (20MKS)

19. The illustration below shows a cross section of a cattle dip.

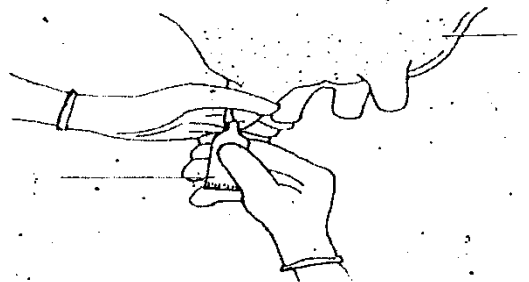


- (a) Name the parts labelled E and G. (1mk)
 - (b) State **one** use for each of the parts labelled E, F and G. (3mks)
20. (a) Name **two** maintenance practices for a wire fence. (1mk)
- (b) The diagram below shows a cross section of a fish pond.



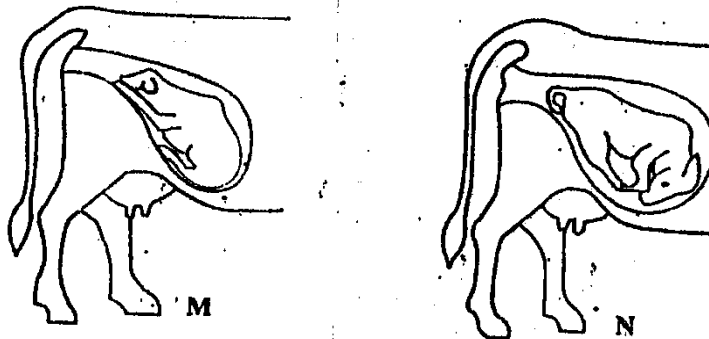
- Name the part labelled J and K (1mk)
- (c) State **one** function of the part labelled L (1mk)
- (d) Give **one** reason why the pond should have a deep end. (1mk)
- (e) Explain how fingerlings are introduced into a pond. (2mks)

21. The illustrations below show a practice carried out to prevent mastitis infection in a dairy cow



- (a) Identify the practice (1mk)
- (b) At what stage is the practice carried out? (1mk)
- (c) State **two** other practices that are carried out on the udder to prevent mastitis infection. (1mk)

22. The diagram below shows calf presentation during parturition



- (a) Name the presentation labeled: M & N (2mk)
- (b) Which **one** of the two presentations requires the services of a qualified stockman? (1mk)
- (c) State **two** signs of parturition observed on the vulva (2mks)
- (d) Give **four** reasons for livestock breeding (2mks)

SECTION C**Answer any two questions from this section.**

23. (a) Describe the uses of *five* materials/Equipment that are required for hand milking (10mks)
 (b) Describe the management practices that ensure proper hygiene in a deep litter poultry house. (6mks)
 (c) State *four* disadvantages of using live fences on the farm (4mks)
24. (a) Explain *five* structural requirements for a grain store (5mks)
 (b) Describe *five* body conformation features of a dairy heifer (5mks)
 (c) Describe the activities that take place during the digestion process in the rumen of a cow. (5mks)
 (d) State differences between a diesel engine and a petrol engine (5mks)
25. (a) Describe the cycle of a four stroke petrol engine. (12mks)
 (b) State *four* signs of external parasite infestation in livestock (4mks)
 (c) Give *four* harmful effects of liver fluke in sheep rearing (4mks)

MOKASA I MOCK**443/1****AGRICULTURE PAPER 1****SECTION A (30 MARKS)**

1. Name **four** biotic factors that influence agriculture negatively. (2marks)
2. State **four** activities that may be undertaken in organic farming. (2marks)
3. Give **four** reasons for early preparation of a seedbed in crop production. (2marks)
4. Give **two** reasons why crops do not do well in waterlogged soils. (1mark)
5. Name **four** farming practices that may lead to soil erosion. (2marks)
6. Give **four** causes of poor drainage on farmland. (2marks)
7. State **four** advantages of a mixed grass legume pasture over a pure grass pasture. (2marks)
8. Give a solution for each of the following properties of nitrogenous fertilizer when applying to crops.
 - a) Easily leached to lower horizons. ($\frac{1}{2}$ mark)
 - b) Are highly volatile. ($\frac{1}{2}$ mark)
 - c) Are hygroscopic. ($\frac{1}{2}$ mark)
9. Give **two** ways in which records help farmers to obtain loans from money lending agencies. (1mark)
10. State **four** benefits of land consolidation. (2marks)
11. State **four** ways in which humus is beneficial to a growing crop. (2marks)
12. State **four** disadvantages of chemical pest control. (2marks)
13. Define the term "integrated pest management" ($\frac{1}{2}$ mark)
14. State **four** factors considered when selecting planting material for forage crops. (2marks)
15. State **four** disadvantages of broadcasting seeds during planting. (2marks)
16. Name **two** sources of underground water. (1mark)
17. State **four** factors that would determine the number of secondary cultivations to be carried out on a seedbed before planting. (2marks)
18. State **two** characteristics of a good vegetable seedling. (1mark)

SECTION B (20 MARKS)

19. A member of the young farmers' club was advised to apply a complete compound fertilizer 30-20-10 in a tomato plot measuring 10m by 5m at the rate of 300kg per hectare.
- a) Give the percentage of nitrogen (N) and phosphorus pentoxide (P_2O_5) in the fertilizer.

Nitrogen (N)

Phosphorus pentoxide (P_2O_5).....

b) Calculate the amount of fertilizer the member would require for the plot. (3marks)

20. The diagram below illustrates a field management practice in tomatoes. Study it and answer the questions that follow.

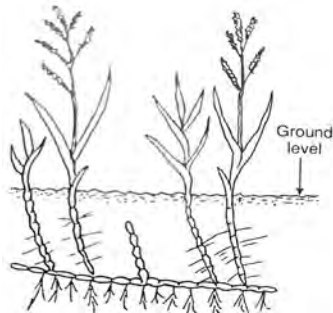


a) Identify the field practice. (1 mark)

b) Name **two** materials used in the practice illustrated above. (2 marks)

c) State **three** reasons for carrying out the practice above. (3 marks)

21. Below is a photograph of a weed. Study it carefully and answer the questions that follow.



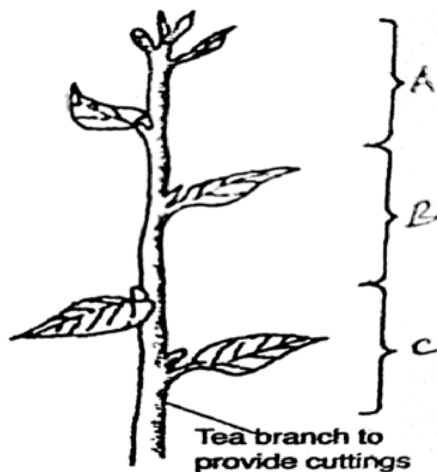
a) Identify the weed above. (1mark)

b) Why is the weed above difficult to control? (1mark)

c) Give **two** ways in which the weed above can be controlled in a field of maize. (2marks)

d) Classify the weed basing on its morphology. (1mark)

22. The diagram below is of a tea cutting. Study it and answer the questions that follow.



- a) Which part of the branch is most appropriate for raising a new seedling. (1mark)
 b) Give a reason for your answer in (a) above. (1mark)
 c) Give a reason why farmers are advised to raise tea cuttings in polythene sleeves. (1 mark)
 d) State **two** factors that affect the rooting of the cutting above. (2 marks)

SECTION C (40 MARKS)

23. a) Describe the production of tomatoes under the following sub-headings.
 i) Varieties (2 marks)
 ii) Nursery establishment (4 marks)
 iii) Transplanting (4 marks)
 b) Discuss the effects of wind in Agriculture. (6 marks)
 c) State **four** reasons for mulching. (4 marks)
24. a) Describe **four** types of soil erosion. (9 marks)
 b) Outline the precautions taken when harvesting cotton. (4 marks)
 c) Describe **seven** factors considered when selecting bean seeds for planting. (7 marks)
25. a) State and explain **four** environmental factors affecting the effectiveness of herbicides (8 marks)
 b) Describe **five** factors that determine the quality of farm yard manure. (6 marks)
 c) State **six** disadvantages of communal land tenure system. (6 marks)

MOKASA I MOCK

443/2

AGRICULTURE PAPER 2

SECTION A (30 Marks)

Answer all questions in the spaces provided.

1. Name a breed of livestock described below.
 (a) A beef cattle breed, deep red in colour, the face and part of the legs below knees and hocks are white. (1½mk)
 (b) A pig breed which is white in colour, with a straight snout and long ears dropping over the face. (1½mk)
2. Name **two** cattle diseases caused by viruses. (1mk)
 3. State **four** pre-disposing causes of calf pneumonia diseases. (2mks)
 4. Give **three** effects of external parasites that are harmful to livestock. (1½mk)
 5. State **two** reasons for housing calves singly in cattle management. (1mk)
 6. (a) Name **two** methods of extracting honey from honey combs. (1mk)
 (b) Outline **four** factors that affect the quality of honey. (2mks)
 7. Give **four** reasons why farm tools and equipment should be maintained (2mks)
 8. (a) What is caponisation as used in poultry (½mk)
 (b) Give a reason for using water paints to paint the walls of calf pen. (½mk)
 9. State **four** factors considered when siting a fish pond. (2mks)
 10. Give **four** functions of vitamins in livestock nutrition. (2mks)
 11. Name **four** various parts of pig pens. (2mks)
 12. State **two** factors that affect respiratory rate in livestock. (1mk)
 13. State **four** signs of heat in rabbits. (2mks)
 14. Give **three** reasons for castrating a breeding boar. (1½mks)
 15. State **four** qualities of eggs suitable for incubation. (2mks)
 16. Outline **four** disadvantages of inbreeding in livestock production. (2mks)
 17. State **four** conditions that would encourage egg eating in poultry. (2mks)
 18. State **two** conditions that may inhibit milk let-down during milking. (1mk)

SECTION B (20 MARKS)

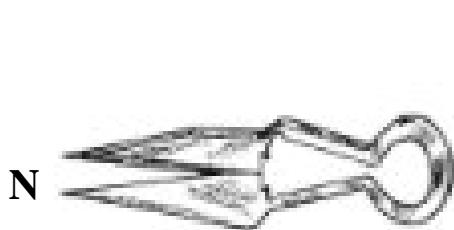
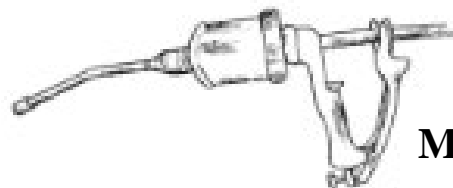
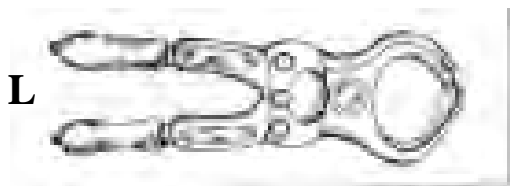
Answer all questions in this section in the spaces provided.

19. Below is diagram of a cow suffering from a deficiency disease? Study it and answer the question that follows.



- (a) Identify the diseases of the above animal is suffering from. (1mk)
- (b) What stage of the state of the body condition encourages the disease above? (1mk)
- (c) List **two** symptoms of the above disease. (1mk)
- (d) Give **one** control measure of the identified disease. (2mks)

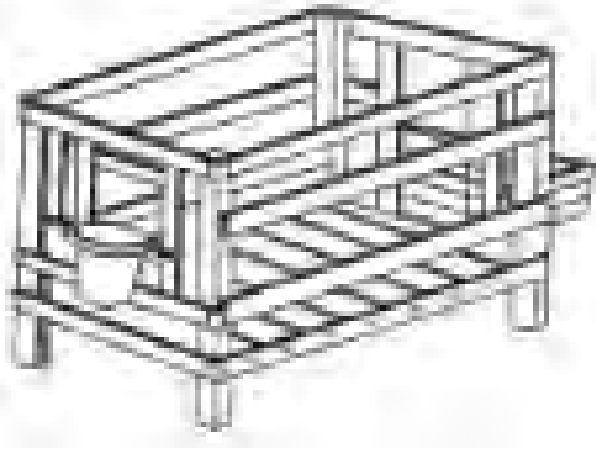
20. Study the diagram of the tools labelled L,M,N and P and answer the following questions.
Name the tools labelled L,M,N and P and give their uses. (4mk)



| | Identity | Use |
|---|----------|-----|
| L | | |
| M | | |
| N | | |
| P | | |

- 21. (a) Name **two** major physical differences between Bactrian and dromedary breed of camel. (2mks)
- (b) Name **four** dairy breeds of dairy goats. (2mks)
- (c) Name **one** characteristic of goats that make them perform better in the dry parts of the Country. (2mks)

22. Study the diagram of a calf pen illustrated below.



- (a) Name the type of floor shown in the diagram. (1mk)
 (b) What is the purpose of the floor being raised. (1mk)
 (c) Name **two** factors considered when siting a calf pen. (1mk)
 (d) Give **one** function of good ventilation in the animal house. (1mk)

SECTION C (40 MARKS)

Answer any two questions from this section.

23. (a) Describe Newcastle disease under the following sub-headings
 i) Causal organism. (1mk)
 ii) Symptoms of attack. (6mks)
 iii) Control measures (3mks)
24. (a) Explain **seven** ways in which ticks can be controlled on a livestock farm. (7mks)
 (b) State **four** disadvantages of using live fences on a farm. (4mks)
 (c) Describe **nine** advantages of the battery cage system of rearing layers. (9mks)
25. (a) Give **five** reasons for keeping livestock health. (5mks)
 (b) Describe the process of digestion in the small intestines of a non-ruminant animal. (5mks)
 (c) Describe **six** disease control routine management practices in calf rearing. (6mks)
 (d) Describe the procedure of stocking a bee hive. (4mks)

MURANG'A SOUTH MOCK

443/1

AGRICULTURE paper 1

SECTION A (30 MKS)

ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

1. Give four advantages of intensive farming. (2 mks)
 2. Give two reasons for testing soil (1 mk)
 3. Give four reasons for deep ploughing during land preparation (2 mks)
 4. Name four books of accounts (2 mks)

5. State three care and management required of agro forestry trees (1 ½ mks)
6. State four factors affecting the quality of farm yard manure (2 mks)
7. List four details recorded in a field operation record (2 mks)
8. Give four indicators of a plant lacking adequate nitrogen (2 mks)
9. Give four reasons why farmers may choose seeds over vegetative materials during planting (2 mks)
10. Define the following terms as used in crop production. (1 ½ mks)
11. Give the various methods of pegging tea. (1 mk)
12. State four limitations of individual owner – operator land tenure system (2 mks)
13. State four processes that lead to formation of gully erosion (2 mks)
14. Give four benefits of weeds (2 mks)
15. Name three categories of crop diseases (1½ mks)
16. State the law of substitution (1mks)
17. State five factors that affects the supply of a given commodity in the market (2 ½ mks)

SECTION B (20 MKS)

ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

18. The photograph below illustrates a method of irrigation



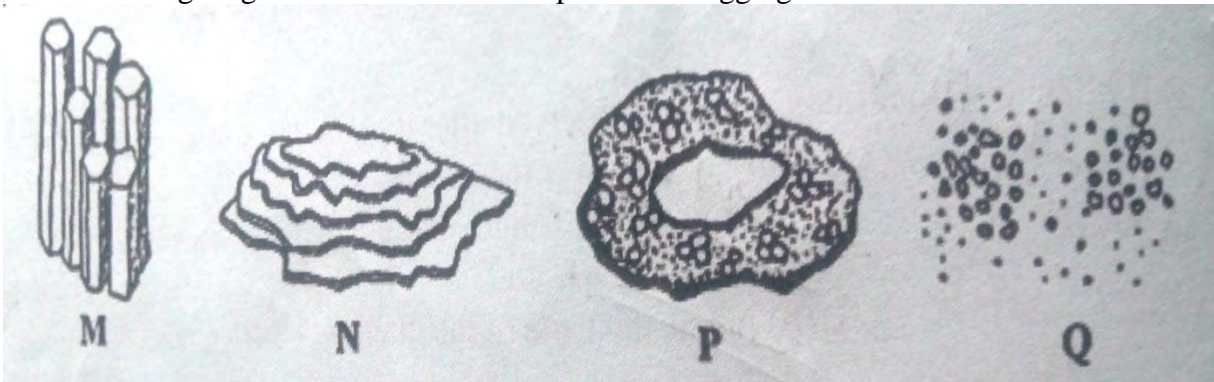
- a). Identify the method of irrigation illustrated above. (1 mk)
- b). State three maintenance practice that are carried out on the equipment used in the illustrated above (3 mks)
- c). Give one advantage of drip irrigation has over the method of irrigation illustrated as above in crop disease control. (1 mk)

19. The table below shows the population and Gross National Income of countries A and B.

| COUNTRY | Gross National Income (Millions KShs.) | POPULATION (million) |
|---------|-------------------------------------------|-------------------------|
| A | 1800 | 36 |
| B | 1200 | 15 |

- a). Calculate the per capita income for each country. Show your working (2 mks)
- b). Which of the two countries is more developed economically? (1 mk)
- c). Give a reason for your answer in (b) above (1 mk)
- d). How can agriculture increase the Gross National Income of a country? (1 mk)

20. The following diagrams show various samples of soil aggregates



- a). Identify the type of soil structures (2 mks)
- b). Briefly explain how soil structure N can be improved (2mks)
- c). Name two places where soil labeled S can be found. (2mks)

21. Use the diagram below to answer the questions



- a). Identify the sorghum variety shown (1 mk)
- b). State two birds pests that commonly attack the crop (2 mks)
- c). Name two other varieties commonly grown by farmers (2 mks)

SECTION C (40 MKS)

ANSWER ANY TWO QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED

- 22. a). Describe the production of dry beans under the following sub – headings
 - i) Varieties (2 mks)
 - ii). Selection of planting materials (3 mks)
 - iii) Post harvesting practices of dry beans (5 mks)

- b). Explain five physical methods of pest control (6 mks)
 c). Explain four factors that determine seed rate (4 mks)
23. A). Describe the seven management practices that should be carried out on a vegetable nursery after sowing seeds until the seedlings are ready for transplanting (7 mks)
 b). Describe the cultural methods of controlling soil erosion (7 mks)
 c). Explain how farmers may adjust to uncertainties in a farming business (6 mks)
- 24). a) Describe the production of carrots under the following sub headings
 i). Land preparation (3 mks)
 ii). Planting (4 mks)
 b). Explain six farming practices that destroy soil structure (6 mks)
 c). i). What is solifluction erosion? (1 mk)
 ii). Explain six factors influencing mass wasting / solifluction (6 mks)

**MURANG'A SOUTH
 END OF TERM TWO 2023 EXAMINATION
 443/2**

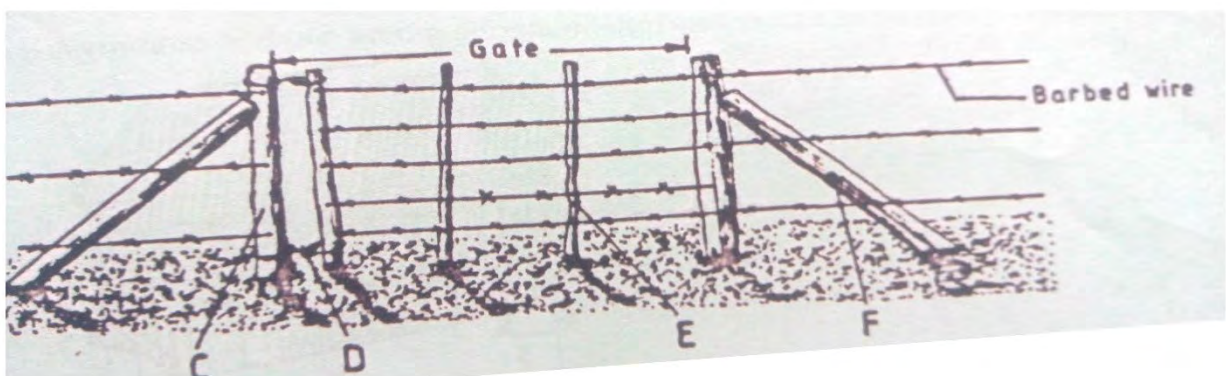
AGRICULTURE PAPER 2

1. Give four effects of livestock disease in agriculture production (2 mks)
2. Give four effects of external parasites that are harmful to livestock (2 mks)
3. State four desirable qualities of a livestock ration (2 mks)
4. List two tools used for each of the following farm operations.
 i). Tightening barbed wires during fencing (1 mk)
 ii). Smoothing concrete floors during plastering (1 mk)
5. Name four rabbit breeds reared in Kenya. (2 mks)
6. Name four parts of the animal preferred by a two – host tick. (2 mks)
7. State four functions of calcium in animal nutrition (2 mks)
8. Outline four advantages of artificial insemination in cattle management. (2 mks)
9. State four causes of infertility in dairy cattle (2mks)
10. State four management practices in fish rearing. (2 mks)
11. State two harmful effects of mites to livestock (1 mk)
12. State four qualities of marketable eggs (2mks)
13. State four advantages of artificial calf rearing (2mks)
14. Name four parts of a farm building that can be reinforced using concrete. (2 mks)
15. Give four symptoms of milk fever in dairy cows (2mks)

SECTION B (20 MKS)

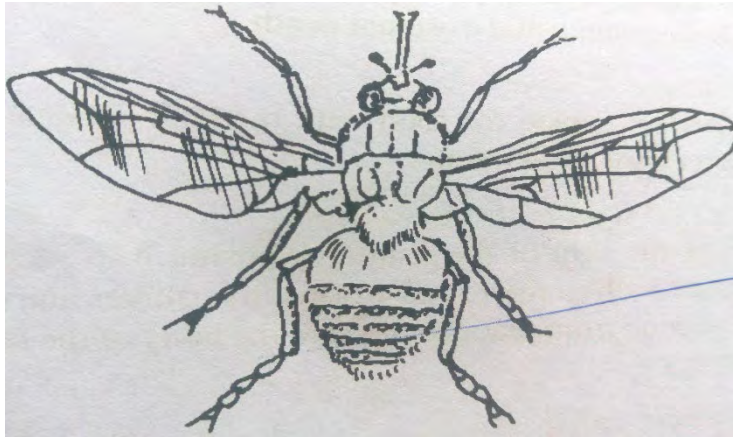
ANSWER ALL QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED.

16. The diagram below shows a type of a farm gate. Study the diagram and answer the questions that follow.

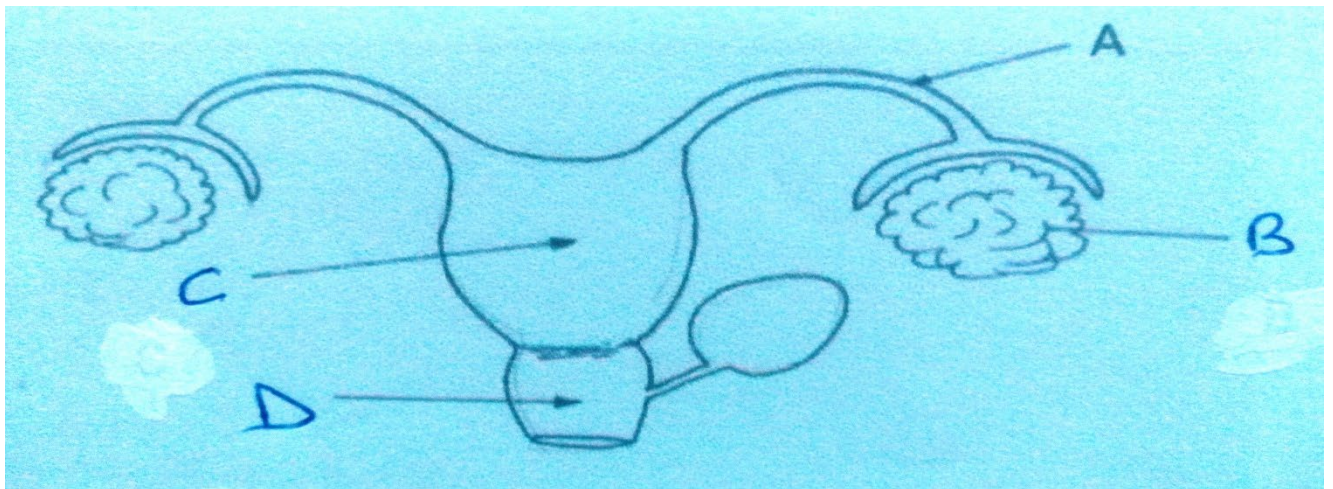


- a). Identify the type of the gate shown (½ mk)
- b). Name the parts labeled C, D and E. (1 ½ mks)
- c). i). State one function of the part labeled F. (1mk)
- ii). State two functions of the gate illustrated above (2 mks)

17. The diagram below illustrates a livestock parasite.

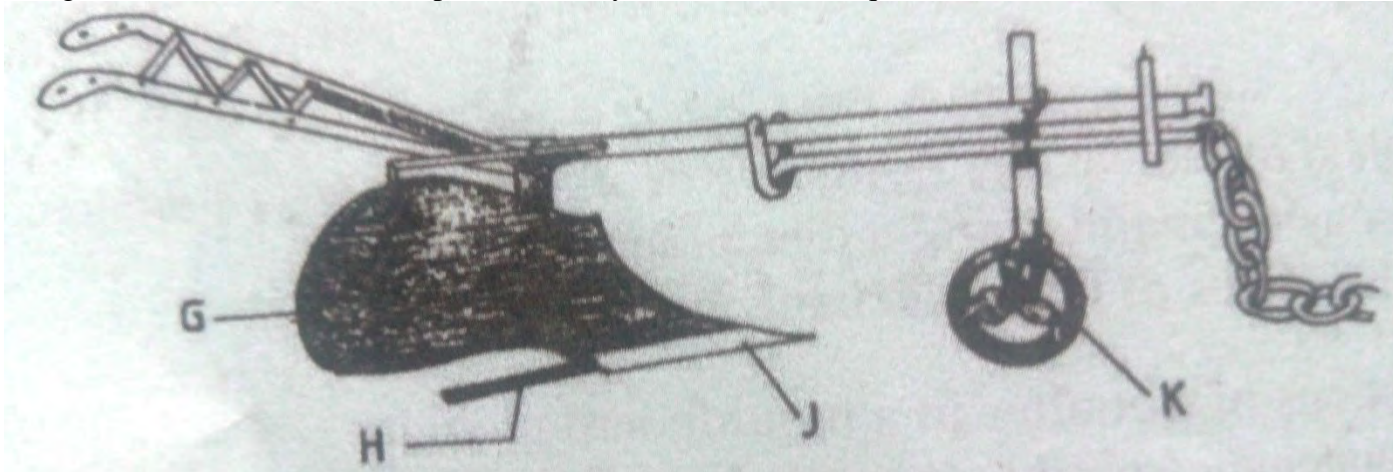


- a). Identify the parasite illustrated above (1 mk)
 - b). State the major harmful effects of the parasite (1 mk)
 - c). Explain three control measures for the parasite (3 mks)
18. The diagram below illustrates the reproductive system of a farm animal. Study it and answer the questions that follow.



- (a). Name the parts labeled A, B, C and D (2 mks)
- (b) State the functions of the part labeled A. (1 mk)
- (c). Give two signs of oestrus in cows (2 mks)

19. The diagram below shows a farm implement. Study it and answer the questions that follow.



- i. Identify the farm implement illustrated in the diagram above. (1mk)
- ii. Name the parts labeled G, H, J and K (2mks)
- iii. State two functions of the farm implement illustrated above. (2mks)

SECTION C (40 MKS)

ANSWER ANY TWO QUESTIONS IN THIS SECTION.

20. a). Describe the management practices that a farmer should carry out to improve milk (10 mks)
- b). Explain the daily maintenance practices that should be carried out on a farm tractor. (10 mks)
21. a). Give five management practices a farmer should carry out to control parasite infestation in livestock (5 mks)
- b). Describe the control measures for cannibalism in layers (5 mks)
- c). Discuss foot and mouth disease under the following headings
 - i. causal organisms
 - ii. Livestock species attacked (2 mks)
 - iii. Symptoms of attack (4 mks)
 - iv. Control measures (3 mks)
22. a). Describe the milking procedure under the following sub – headings: (5 mks)
 - i. Pre – milking practices
 - ii. Procedure of proper milking (5 mks)
- b). Describe the management of growers in poultry rearing. (5 mks)
- c). Explain five factors that affect the digestibility of a feed material (5 mks)

MUMIAS WEST JOINT EVALUATION TEST - 2023

443/ 1

AGRICULTURE PAPER 1

SECTION A (30 marks)

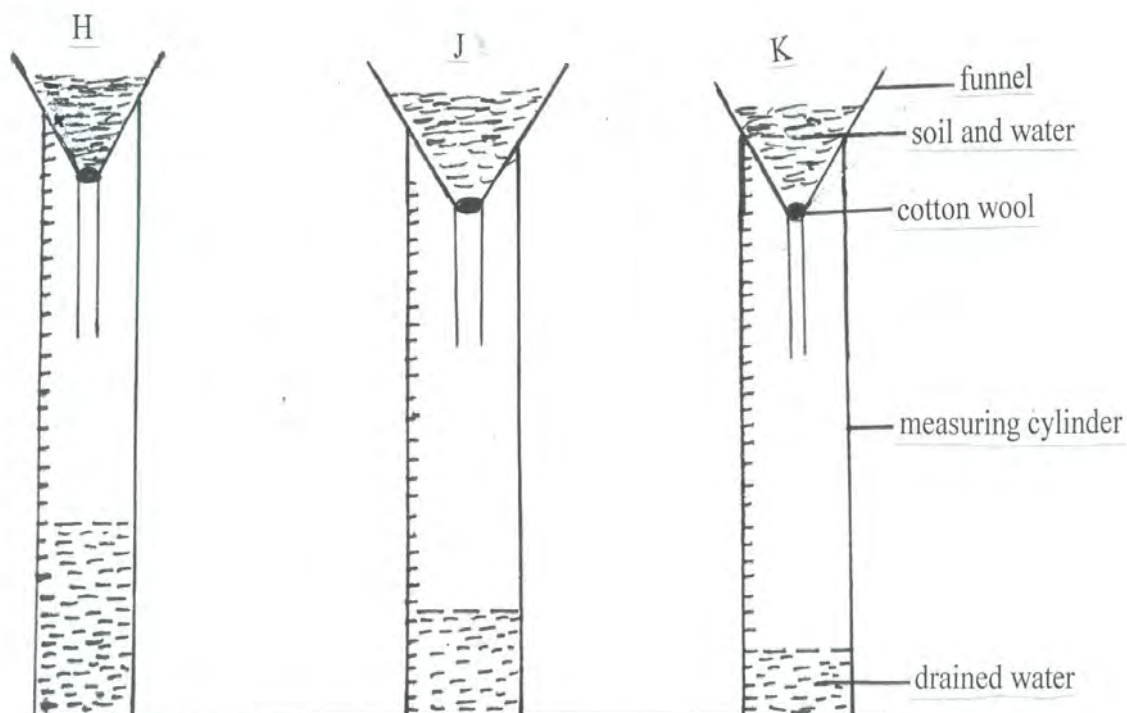
Answer **ALL** the questions in this section in the spaces provided.

- 1 Name **three** branches of horticulture. (1½ marks)
- 2 List **two** advantages of mixed farming. (1 mark)
- 3 State **two** advantages of metal water pipes over plastic pipes in piping water in the farm. (1 mark)
- 4 List **two** ways in which a soil of pH 3 can be raised to pH 5. (1 mark)
- 5 State **two** field practices that can ensure efficient utilization of Urea fertilizer in a field of maize. (1 mark)
- 6 Give **three** advantages of tissue culture in crop propagation. (1½ mark)
- 7 List **three** advantages of grass – legume mixture. (1 ½ mark)
- 8 State **four** conditions limiting shifting cultivation. (2marks)
- 9 State **four** factors that can affect the efficiency of pesticides. (2 marks)
- 10 State **four** advantages of land consolidation (2 marks)
- 11 Give **two** ways in which afforestation help in land reclamation. (1 mark)
- 12 Give **five** reasons for processing of farm produce. (2½ marks)
- 13 Differentiate between a labour utilization analysis and muster roll as used in labour records. (2 marks)
- 14 State **three** effects of weeds in a pasture crop. (1½ marks)
- 15 State **four** disadvantages of land fragmentation. (2 marks)
- 16 Name **three** ways in which a cropping system help in controlling soil erosion. (1½ marks)
- 17 Name any **two** crops propagated through suckers. (1 mark)
- 18 Give **four** advantages of minimum tillage. (2 marks)
- 19 State **four** precautions a farmer should observe when harvesting pyrethrum. (2 marks)

SECTION B (20 marks)

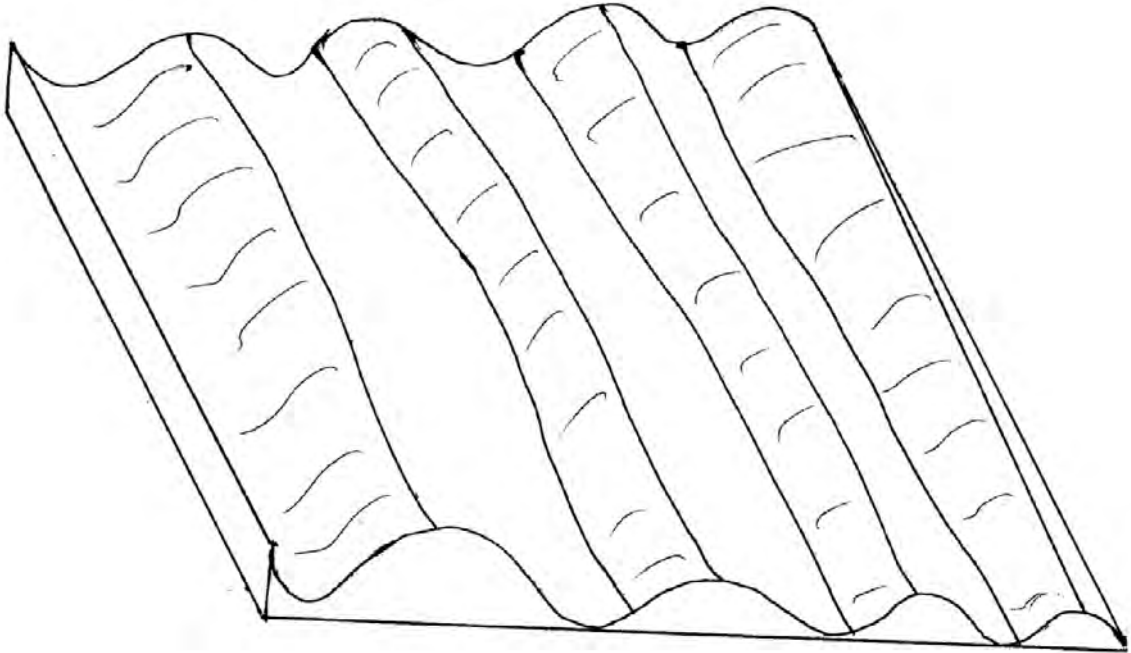
Answer **ALL** the questions in this section in the spaces provided.

- 20 The diagram below shows an experiment set up using three different sets of soil, and the observations made after 24hrs. Study the diagram and answer the questions that follow.



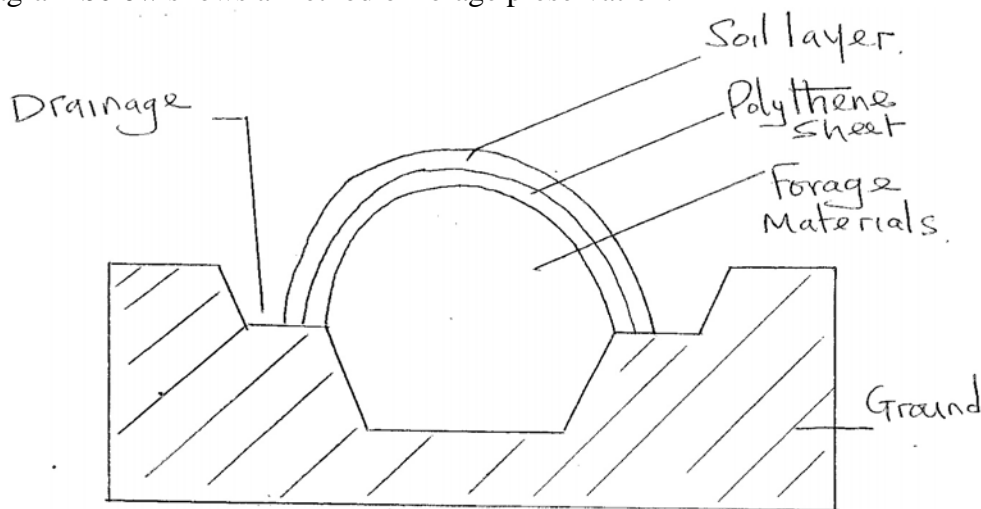
- (a) What is the experiment set up above designed to study. (1 mark)
- (b) Name the three soil types **H**, **J** and **K** (3 marks)
- (c) State how a farmer would improve the structure of the soil type **K**. (1 mark)

21 The diagram below illustrates a final seedbed after a tertiary operation done during land preparation. Study it carefully and answer the questions that follow



- i) Name the tertiary operation carried out on the seedbed (1 mark)
- ii) Describe how the tertiary operation named in (i) above is carried out. (2 marks)
- iii) Give **two** advantages of planting crops on the final seedbed illustrated above. (2 marks)

22 The diagram **below** shows a method of forage preservation.



- i) Identify the structure illustrated above. (1 mark)
- ii) State the form in which forage is conserved as illustrated above. (1 mark)
- iii) Give the role of the following in the structure above.
 - (a) Polythene sheet. (1 mark)
 - (b) Drainage (1 mark)
 - (c) Name one fodder crop that is conserved by the use of this method (1 mark)

23 The diagram above illustrates a bird labeled **A** which is a crop pest.



- (a) Identify the crop pest. (1 mark)
- (b) State two ways by which the bird causes losses in crops. (2 marks)
- (c) State two ways of controlling the crop pest (2marks)

SECTION C (40 marks)

- 24. a) Describe the procedure of harvesting coffee (5marks)
- b) State and explain any **five** cultural method of controlling weeds (10marks)
- c) Explain **five** advantages of mulching (5marks)
- 25. Describe the production of carrot under the following sub-headings
 - (i) Land preparation (3marks)
 - (ii) Planting (3marks)
 - c) Identify and explain **five** factors determining spacing of a particular crop? (10marks)
 - d) Explain **four** effects of high temperature on crop production (4marks)
- 26 a) Explain **five** structural structures used to control soil erosion. (10 marks)
- b) Describe **ten** cultural methods used in controlling crops pests. (10 marks)

MUMIAS WEST SUB-COUNTY JOINT EXAMINATION

443/2

AGRICULTURE PAPER 2

SECTION A: (30 MARKS)

Answer ALL questions in the spaces provided

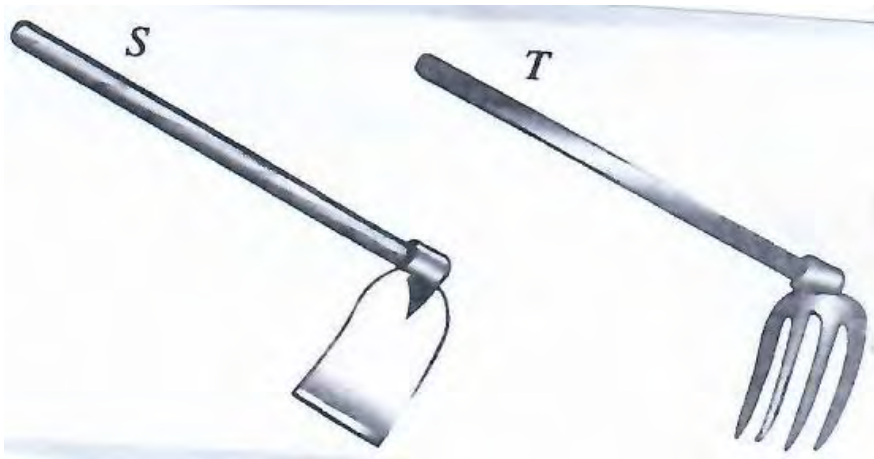
- 1. State the function of the following. (2mks)
 - (a) Trocar and canula
 - (b) Stock and die
 - (c) Strip cup
 - (d) Mallet
- 2. Explain two maintenance practices that should be done on a slasher. (1mk)
- 3. State the origin of each of the following dairy cattle. (1mk)
 - (a) Friesian
 - (b) Jersey
- 4. List four reasons for keeping livestock. (2mks)
- 5. Give the reasons why when hand milking the following should be observed. (3mks)
 - (a) Milk quickly and evenly
 - (b) Milk at regular intervals
 - (c) Practice complete milking
- 6. What is dry cow therapy? (1mk)
- 7. Give two reasons for growing grass around the fish pond. (1mk)
- 8. State four characteristics of desirable eggs for marketing. (2mks)

9. Give two reasons for using litter in a poultry house. (1mk)
10. State four signs of anthrax infection observed in the carcass of cattle. (2mks)
11. State three practices that should be carried out on wooden fence to make it last long. (1½mks)
12. State two maintenance practices carried out on a piggery unit. (1mk)
13. State two advantages of contemporary comparison method of selecting breeding stock. (1mk)
14. State three signs of heat in sows. (1½mks)
15. Name two methods of computing livestock ration. (1mk)
16. Give the meaning of the following terms as used in livestock health.
 - (a) Disease (1mk)
 - (b) Vaccination (1mk)
 - (c) Zoonotic disease (1mk)
17. State two control measures for keds in sheep. (1mk)
18. Name one livestock disease that is transmitted by each of the following parasites. (2mks)
 - (a) Blue tick
 - (b) Brown ear ticks
 - (c) Tsetse fly
 - (d) Brown tick
19. Give the appropriate term that refers;
 - (a) Castrated chicken. (½mk)
 - (b) Young one of a rabbit (½mk)
 - (c) Mature male goat (½mk)
20. State three characteristics of Duroc jersey pigs. (1½mks)

SECTION B (20 Marks)

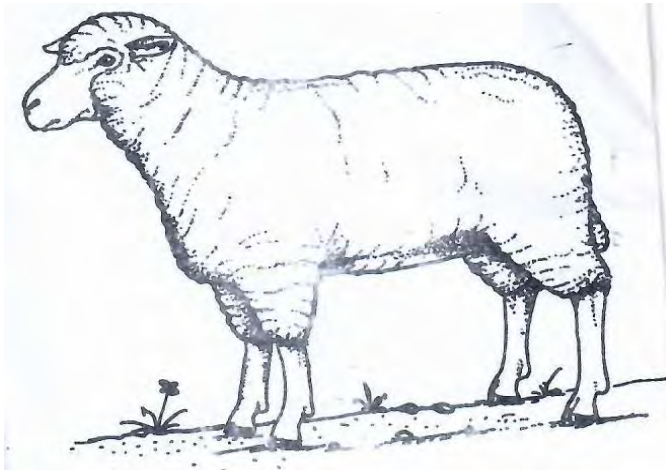
Answer ALL questions in the spaces provided

21. Study the diagrams **S** and **T** below and answer the questions below.



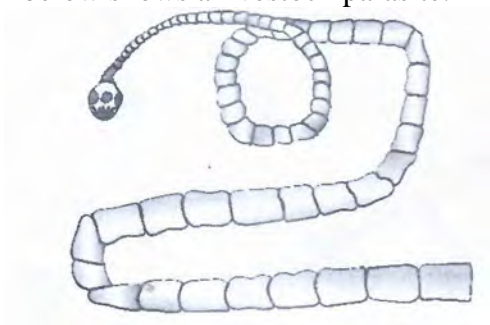
- (a) Identify the tools **S** and **T**. (2mks)
- (b) Under what condition would you require to use tool **T** rather than tool **S**. (1mk)
- (c) Explain two maintenance practices for the above tools. (2mks)

22. Study the diagram below.



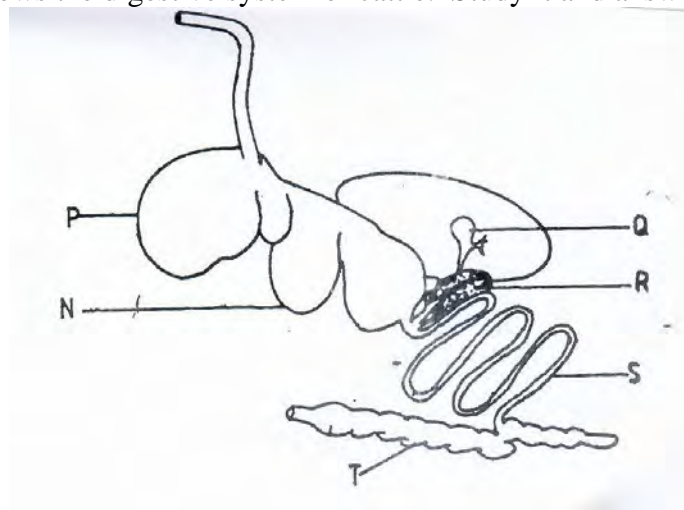
- (a) Outline two reasons for raddling. (2mks)
- (b) Using letter **R**, indicate on the diagram the site of ringing. (1mk)
- (c) Using letter **C**, show the position of breeding chutes. (1mk)
- (d) On the same diagram, show the site of docking. (1mk)

23. The diagram below shows a livestock parasite.



- (a) Identify the parasite. (1mk)
- (b) Explain how the parasite is passed from;
 - (i) Livestock to human beings. (1mk)
 - (ii) Human beings to livestock. (1mk)
- (c) Explain two control measures for the parasite in a zero grazing unit. (2mks)

24. The diagram below shows the digestive system of cattle. Study it and answer the questions that follow.



- (a) Name the parts labelled **N**, **P** and **Q**. (3mks)

- (b) State the function of **T**. (1mk)
 (c) Give the name of an enzyme produced by the part labelled **R**. (1mk)

SECTION C (40 Marks)

Answer ANY TWO questions from this section in the spaces provided.

25. a) Describe pneumonia disease under the following sub-headings.
- (a) Causal organisms (1mk)
 - (b) Animal affected (2mks)
 - (c) Predisposing factors (2mks)
 - (d) Symptoms (5mks)
 - (e) Control measures (3mks)
- b) Describe seven physical characteristics a poultry farmer would use to identify poor layers from a flock of hens. (7mks)
26. (a) Give the functions of any five materials/equipment required for hand milking. (10mks)
 (b) State five indicators that can be observed on a goat to confirm sickness. (5mks)
 (c) State five advantages of embryo transplant. (5mks)
27. (a) State the disadvantages of using live fences on the farm. (6mks)
 (b) Give four reasons why bees may swarm from a hive. (4mks)
 (c) State four factors which determine the amount of food an animal can consume. (5mks)
 (d) State five reasons why dromedary (Camelus dromedaries) species of camels is well adapted to Northern part of Kenya. (5mks)

MECS CLUSTER JOINT EXAMINATION

443/1

PAPER 1

SECTION A (30marks).

Answer all Questions in this section

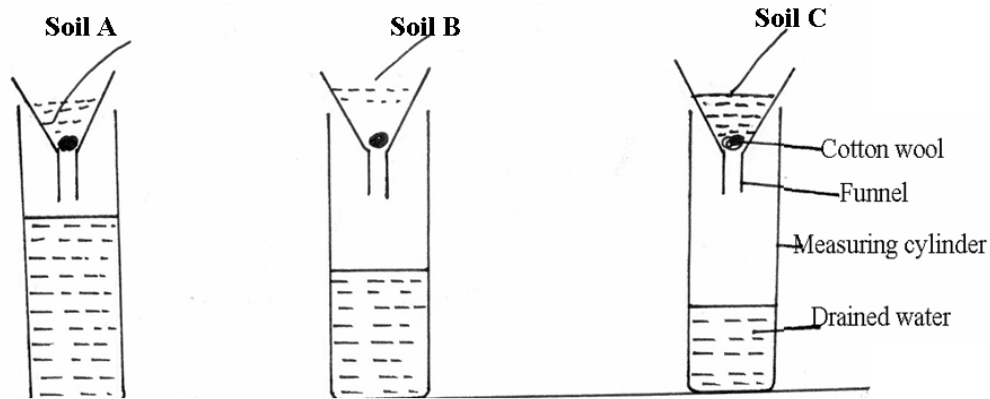
1. Name **two** branches of horticulture. (1marks)
2. List **two** advantages of mixed farming. (1 mark)
3. State **two** advantages of metal water pipes over plastic pipes in piping water in the farm. (1 mark)
- 4 a) State **two** characteristics of extensive farming system. (1marks)
 b) List **four** characteristic of fertile soil (2marks)
5. Give **four** advantages of raising cabbage seedlings in a nursery before transplanting (2marks)
6. State **four** benefits of a land title deed to a farmer (2marks)
7. State **four** factors which should be considered when deciding type of irrigation on crop production (2marks)
8. Give **two** ways by which overstocking encourage soil erosion. (1mark)
9. State **two** physical agent of weathering (1mark)
10. State **four** objectives of the million-acre scheme. (2marks)
11. State **four** symptoms of attack by the bean fly in bean production. (2marks)
12. a) State any **four** measures that are taken to minimize water pollution in the farm. (2 marks)
 b). Outline **four** ways through which soil loses its fertility. (2 marks)
13. List **Four** practices that achieve minimum tillage. (2 marks)
14. a) List **four** farming practices that can be carried out to increase the amount of light harnessed by crops. (1 marks)
15. State **two** ways of preparing planting materials before planting (1mark)
16. State **four** ways of increasing labour efficiency on the farm (2marks)

17. State **four** factors which may affect the quality of Hay. (2 marks)

SECTION B (20 MARKS)

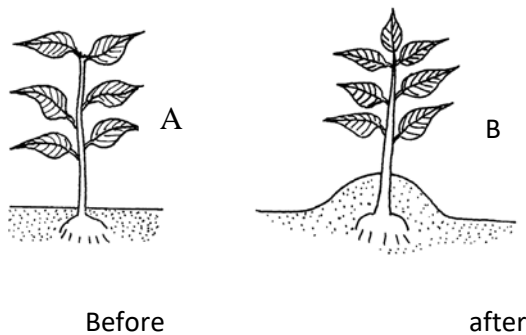
Answer **ALL** the questions in this section in the spaces provided.

18. The diagram below shows an experiment set up using three different sets of soil, and the observations made after 24hrs. Study the diagram and answer the questions that follow.



- (a) What is the experiment set up above designed to study. (1 mark)
- (b) Name soil types B and C. (2 marks)
- (c) What are the characteristic textures of the soil type A and C (2 marks)

19. The diagrams below show a practice carried out on various crops on the farm. Study them carefully and answer the questions that follow.



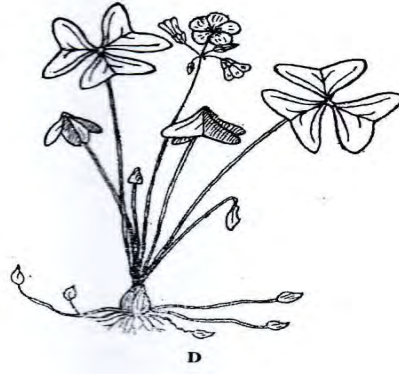
- a) Identify the farm practice represented by B. (1mark)
- b) State one the importance of the above practice in the following crops. (3marks)
 - i) Maize
 - ii) Irish Potatoes
 - iii) Tobacco
- c) At what stage of growth should the above practice be carried out in maize. (1mark)

20. Study the farm record below and the questions that follow:

| Date | Disease symptoms | Animals affected | Drug used | Cost of treatment | Remarks |
|------|------------------|------------------|-----------|-------------------|---------|
| | | | | | |

- (a) Identity of the record (1mark)
- (b) State **two** different information that should be entered in the remarks column (2marks)
- (c) Give **two** importance of keeping the farm record illustrated above (2marks)

21. The diagram below illustrates common weeds in arable land, study them carefully and answer the questions that follow.



- a) Identify the weed labeled C and D (2marks)
- b). Classify the weed labeled C according to plant morphology. (1 mark)
- c). Explain the reason why it is difficult to control the weed labeled D. (2 marks)

SECTION C ANSWER ONLY TWO QUESTION 40 MARKS

22. Describe the management of cabbages under the following sub-headings.
 - (a) Nursery preparation and establishment (7 marks)
 - (b) Management of seedlings in the nursery (5 marks)
 - (c) Transplanting of seedlings (8 marks)
- 23 a) Explain **five** ways government policy contributes to Agriculture. (5 marks)
- b) Explain any **five** factors considered when spacing crops. (10marks)
- c) Describe the advantages of mixed grass -legume pasture over a pure grass pasture (5marks)
- 24 a) State and explain four ways in which soil loses its fertility (8marks)
- b) State the precautions that should be observed when harvesting cotton. (4marks)
- c) Explain **four** importance of crop rotation. (8marks)

**MECS CLUSTER JOINT EXAMINATION
443/2
AGRICULTURE PAPER TWO**

SECTION A (30MARKS)

INSTRUCTIONS: ANSWER ALL THE QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED.

1. Name **two** camel species reared in arid and semi-arid areas. (1mark)
2. Give **one** reason why fresian's milk is more whitish while jersey milk is yellowish. (1mark)
3. State **two** roles of a drone in a bee hive (2marks)
4. What do you understand by the term **raddling** as used in sheep management. (1mark)
5. List **four** conditions that an animal structure should meet in order to help in controlling livestock diseases. (2marks)
6. List **four** physical characteristics of a dairy cow. (2marks)
7. Distinguish between **stress** and **vices** as used in poultry production (1mark)
8. State **two** circumstances that would lead a farmer to cull a high producing cow (1mark)
9. List **four** factors that may inhibit milk let down in dairy cattle. (2marks)
10. Name the other tool used together with each of the following
 - (a) Canula (1mark)
 - (b) Hypodermic needle
11. Name **four** mineral deficiency livestock disorders (2marks)
12. Give **four** ways in which a farmer can restrain a bull on the farm (2marks)

13. Name **four** components of milk (2marks)
14. List **four** factors that affect the digestibility of a feed (2marks)
15. Give **two** symptoms of brucellosis in a cow (1mark)
16. Differentiate between **drift** and **pen lambing** (1mark)
17. State **four** abnormalities observed during egg candling (2marks)
18. State **four** characteristics of succulent roughages (2marks)
19. List **four** features on the animal which may predispose it to livestock disease (2marks)

SECTION B (20 MARKS)

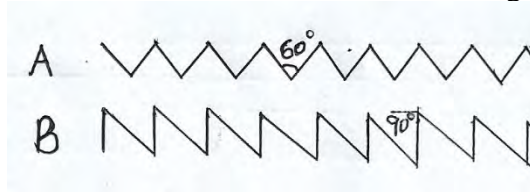
ANSWER ALL THE QUESTIONS IN THIS SECTION

20. The diagram below illustrate the stages of life cycle of a tick. Study it and answer the questions that follow.



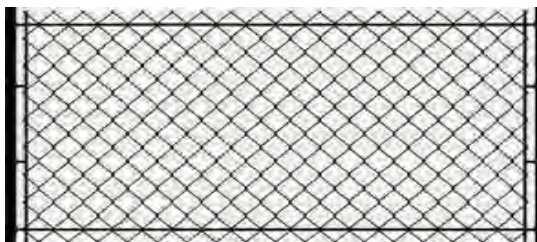
- a) Describe the life cycle of the tick above (4marks)
- b) Classify the tick on the basis of the life cycle. (1mark)

21. The diagram labelled A and B below show the teeth arrangements in workshop tools.



- a) Identify the tools represented by the teeth arrangement. A and B (2marks)
- b) State **one** functional difference between tools represented by the teeth arrangement A and B. (1marks)
- c) Give **two** maintenance practices for the tools represented by the teeth arrangement shown above. (2marks)

22. Study the illustration of fences below and answer the questions that follow



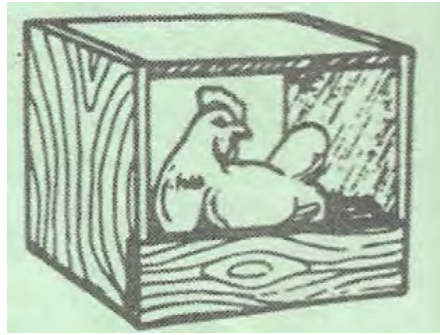
X



Y

- a) Name the type of fences X & Y illustrated above (2mark)
- b) Name the correct tool used in maintenance of the fence Y. (1mark)
- c) State **two** advantages that fence Y may have over fence X (2mark)

23. The diagram below shows a method of incubation in poultry rearing.



- a) Identify the method of incubation shown above. (1mark)
- b) State **four** advantages of the method of incubation identified in (a) above. (4marks)

SECTION C (40 MARKS)

ANSWER ANY TWO QUESTIONS IN THIS SECTION

- 24 (a) Describe **ten** routine management practices carried out during calf rearing (10marks)
- (b) Explain **five** functions of water in livestock nutrition (5marks)
- (c) Outline any **five** advantages of a battery cage system (5marks)
- 25 (a) Outline **ten** differences between a **spray race** and a **cattle dip** (10marks)
- (b) State **five** structural requirements for a good grain store (5marks)
- (c) Describe foot and mouth under the following sub – headings.
 - (i) Casual organism (1mark)
 - (ii) Symptoms of attack (4marks)
- 26 (a) Describe **ten** characteristics of a poor layer. (10marks)
- (b) State **five** differences between ruminants and non- ruminants digestive systems (5marks)
- (c) Describe **five** management practices carried out in a fish pond (5marks)

NTIMARU SUB-COUNTY CLUSTER EXAMS

443/1

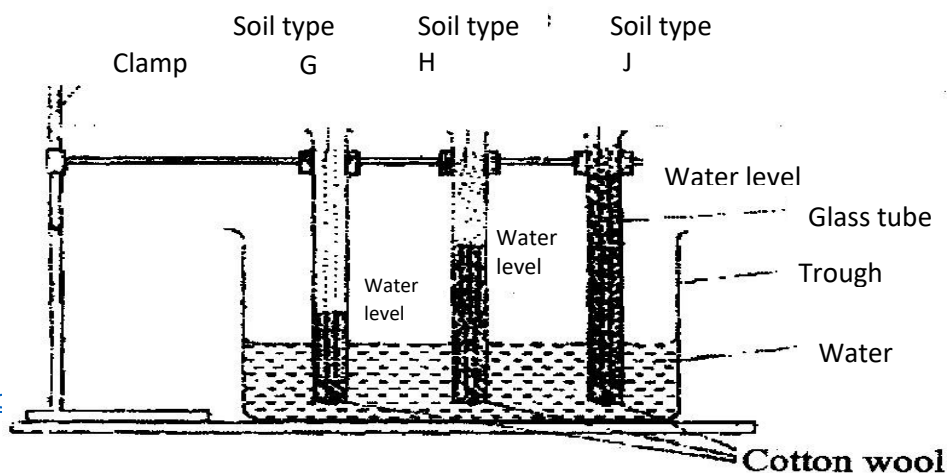
AGRICULTURE PAPER 1

JULY/AUGUST 2023 - 2 HOURS

SECTION A: 30 MARKS

Answer all the questions in this section in the spaces provided

1. State **two** ways in which agriculture contributes directly to the development of industries. (1 mark)
2. State **four** advantages of shifting cultivation (2 marks)
3. The diagram below shows an experiment set up using soil types G, H and J and observations made after 24 hours. Study the diagram and answer the questions that follow.



Cotton wool

- i) What is the experiment represented above designed to study? (½ mark)
- ii) Name the **three** soil types G, H and J. (1½ marks)
- iii) What is the characteristic texture of soil types G and J? (1 mark)
4. State **two** maintenance practices that should be carried out on a wheelbarrow. (1 mark)
5. Give **four** farming practices that may help in achieving minimum tillage. (2 marks)
6. The table below shows pH values of different soil samples. Study it and answer the questions that follow.

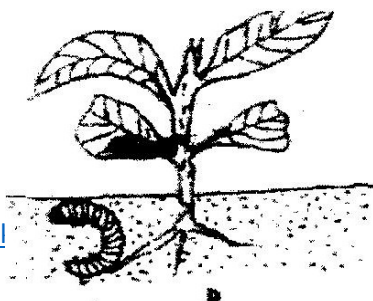
| <u>Soil Sample</u> | <u>pH value</u> |
|--------------------|-----------------|
| S ₁ | 3 |
| S ₂ | 4 |
| S ₃ | 5 |
| S ₄ | 6 |
| S ₅ | 7 |
| S ₆ | 8 |
| S ₇ | 9 |
| S ₈ | 10 |

- (a) Which soil sample has the highest acidity? (½mark)
- (b) State **two** ways in which the pH value of sample S 10 can be lowered. (1 mark)
- (c) Which of the above soil samples is suitable for growing tea? (1½ marks)
7. Calculate the plant population per hectare of a maize crop planted at a spacing of 100cm x 50cm. Show your working. (2 marks)
8. (a) State **four** advantages of crop rotation. (2 marks)
- (b) State **four** factors considered when designing a crop rotation programme (2 marks)
9. (a) State **four** practices which encourage soil erosion (2 marks)
- (b) Name **two** forms of gully erosion (1 mark)
10. Give a weed for each case, which has the following effect on cattle:
 - (a) Poisoning (½mark)
 - (b) Tainting milk when eaten before milking (½mark)
11. State **four** advantages of land consolidation (2 marks)
12. Name **five** sources of agriculture credit in Kenya (2½ marks)
13. List **two** examples of working capital in crop production. (1 mark)
14. State the use of the following in farm accounting: (1 ½ marks)
 - (a) Balance sheet
 - (b) Inventory
 - (c) Cash book
15. State **four** problems that farmers are likely to face when marketing their produce. (2marks)

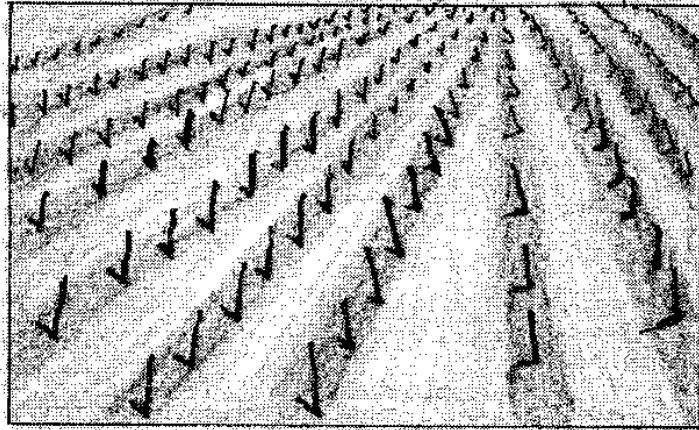
SECTION B (20 MARKS)

Answer all the questions in this section in the spaces provided

16. (a) List **two** sites on which agro Forestry trees can be established on a farm (2marks)
- (b) State **four** benefits of agro forestry to a maize crop. (2 marks)
17. The diagram labeled D below shows a Kale crop invested by a pest



- i) Identify the pest. (1 mark)
 - ii) What damage does the pest cause to the crop? (1 mark)
 - iii) State **two** methods of controlling the pest (2 marks)
18. A farmer applied a compound fertilizer 10:20:0 on a three hectares piece of land at a rate of 180kg N per hectare.
- Calculate the quantity of the compound fertilizer the farmer applied on the piece of land. (3 marks)
 - What do the figures 10 and 20 stand for in the compound fertilizer? (2 marks)
19. The diagram below shows crop establishment using a certain method of planting.



- a) Name the method of planting used for the crop (1 mark)
- b) State three advantages of the plating method used for the crop (3marks)
- c) Explain three factors that determine the depth of planting (3marks)

SECTION C (40 MARKS)

Answer ANY TWO questions from this section in the spaces provided

20. In a maize production enterprise carried over a period of eight years, a farmer used one hectare of land each time and applied different quantities of DAP fertilizer. DAP fertilizer costs Ksh 2500 per 50kg bag and the harvested maize is sold at Ksh 3000 per 90kg bag. The quantities of DAP fertilizer applied and maize harvested are as shown in this table below.

| DAP fertilizer input in 50 kgs bags | Maize yield in 90 kgs bag | Total revenue kshs | Total cost kshs | Marginal revenue kshs | Marginal cost kshs |
|-------------------------------------|---------------------------|--------------------|-----------------|-----------------------|--------------------|
| 0 | 15.0 | 45,000 | 0 | 0 | 0 |
| 1 | 15.6 | | | | |
| 2 | 52.0 | | | | |
| 3 | 68.5 | | | | |
| 4 | 71.0 | | | | |
| 5 | 71.5 | | | | |
| 6 | 71.5 | | | | |
| 7 | 68.6 | | | | |

- a) Complete the table by determining the values of total revenue, total cost, and marginal revenue

- and marginal cost (8 marks)
- b) From the information in your table, how can the farmer determine the level of production at which profit is maximum? (1 mark)
- c) At the production level that yielded maximum profit, what was the value of each of the following? (1 mark)
- i) DAP Fertilizers input
 - ii) Marginal revenue
- d) Discuss five importance of budgeting in agricultural production (10 marks)
21. a) Explain **five** methods of harvesting water in a farm (10 marks)
- b) Outline **ten** farming activities which may encourage soil erosion. (10 marks)
22. a) Describe how the stem cuttings for propagating tea are prepared (9marks)
- b) Explain **six** factors that should be considered when selecting seeds for planting (6marks)
- c) State **five** advantages of timely planting in crop production (5 marks)

NTIMARU SUB-COUNTY CLUSTER EXAMS

443/2

AGRICULTURE Paper 2

JULY/AUGUST 2023 - 2 Hours

SECTION A (30 MARKS)

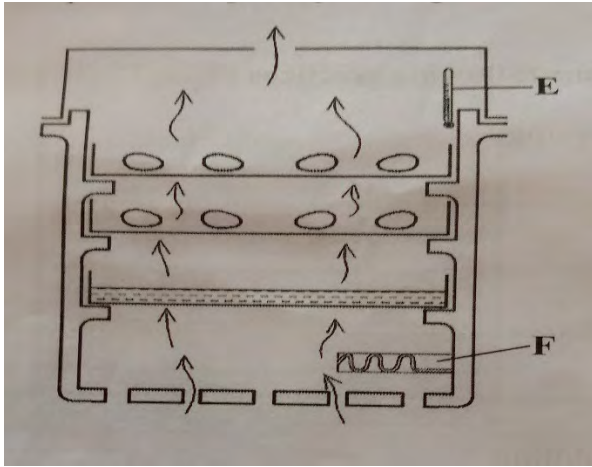
Answer all the questions in this section in the spaces provided.

1. State **two** functions of walking area in a zero-grazing unit. (1mk)
2. Name **two** livestock food additives. (1mk)
3. Define the following terms as used in livestock production. (1mk)
 - a. Digestible crude protein.
 - b. Starch equivalent.
4. State **four** factors that are considered when selecting eggs for marketing (2mks)
5. State **four** qualities of a good beef preferred by consumers (2mks)
6. Give **four** characteristics of a good livestock house. (2mks)
7. State **four** conditions that make a cow hold milk during milking. (2mks)
8. Name **four** structures which would assist in the control of livestock parasite in the farm. (2mks)
9. Give **three** uses of biogas in the farm. (1¹/₂mks)
10. State **four** limitations of a tractor as a source of power on the farm. (2mks)
11. Give the appropriate term that refers to each of the following: (2mks)
 - a. Young one of a Rabbit.
 - b. Mature male goat.
 - c. Mature male pig.
 - d. Mature female Rabbit.
12. Name **four** beef cattle breeds (2mks)
13. State **four** control measures for foot rot. (2mks)
14. State **four** reasons for castration in livestock production. (2mks)
15. State **four** methods of fish preservation. (2mks)
16. Name **four** causes of livestock diseases. (2mks)
17. List **two** ways in which farmers market beef cattle in Kenya. (1mk)
18. Define the term Zoonotic disease. (1mk)

SECTION B (20 MARKS)

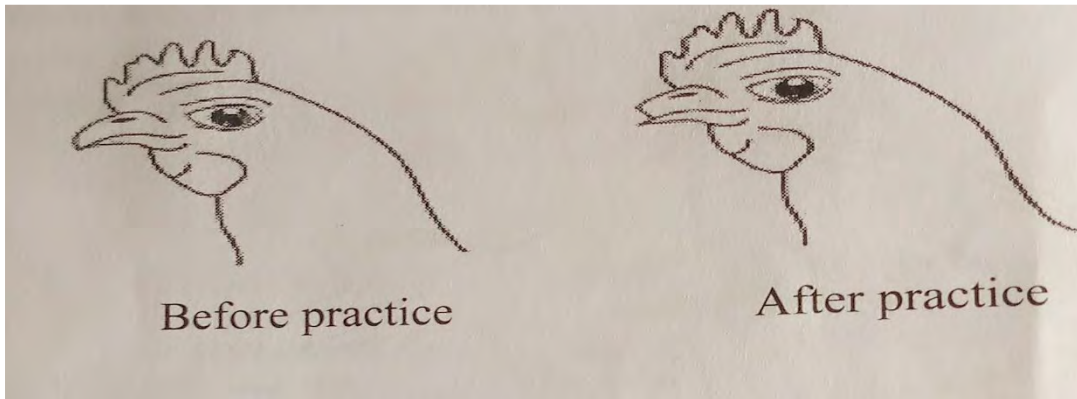
Answer all the questions in this section in the spaces provided.

19. The diagram below illustrate a practice in poultry rearing.



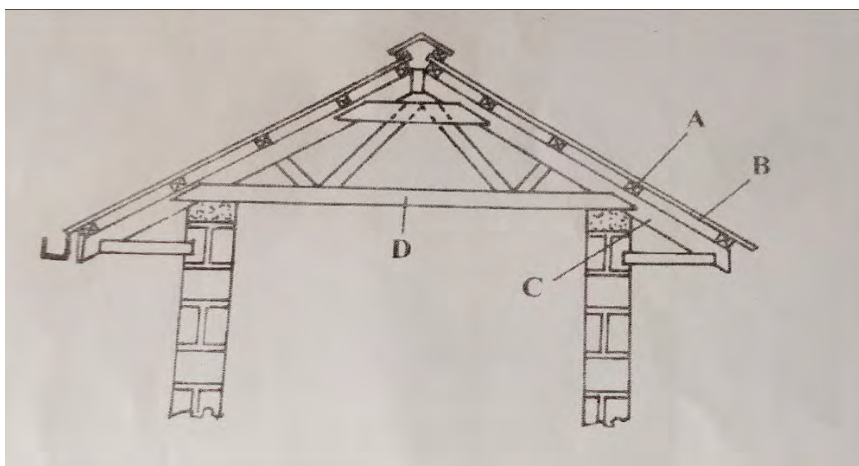
- a. Identify the practice (1mk)
- b. Name the part labeled E & F (2mk)
- c. Explain **two** activities not shown in the illustration but very important for the practice to succeed (2mks)

20. Below is an illustration of a practice carried out in poultry.



- a) i.) Identify the practice. (1mk)
- ii.) Give **one** reason why the use of hot iron is recommended for the practice illustrated. (1mk)
- b) Name **two** poultry vices controlled by the practice illustrated. (2mks)
- c) State **one** feeding practice that helps to control these poultry vices (1mk)

21. The diagram below represents parts of a roof.



- a. Identify the parts rebelled A and C (2mk)

- b. State **two** types of materials that may be used for the part labeled D (2mks)
 c. Give **one** disadvantage of using thatch for the part rebelled B (1mk)
22. A 100 kg pig ration containing 18% crude protein was to be made from wheat bran (3% crude protan) and cotton seed cake (28% crude protan). Using the person's square. Calculate of each feedstuff needed to prepare the ration. (5mks)

SECTION C (40 MARKS)

Answer any two questions from this section in the spaces provided after question 23.

23. a) Outline the procedure of harvesting honey from the Kenya top bar hive (9mks)
 b) Outline **seven** importance of keeping livestock healthy. (7mks)
 c) State **four** methods of preserving fish. (4mks)
24. a) State **five** disadvantage of artificial insemination (5mks)
 b) State **five** differences between ruminant and non-ruminant digestive system. (5mks)
 c) Describe anaplasmosis (gall sickness) disease under the following sub-headings.
 i) Casual organism (1mk)
 ii) Modes of transmission. (2mks)
 iii) Symptoms (4mks)
 iv) Control measures (3mks)
25. a) Describe the management of calf from birth to weaning. (13mks)
 b) Explain **seven** essentials of clean milk production. (7mks)

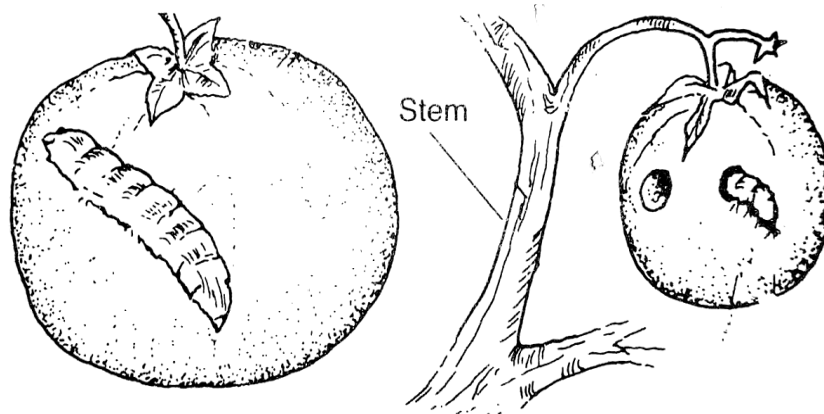
KIHARU KAHURO
443/1
AGRICULTURE PAPER 1
JULY/AUGUST 2023

SECTION A

1. State four ways through which Agriculture contributes to industrial development. (2 marks)
2. Give the characteristics of trees used in agro forestry. (2 marks)
3. Name three properties of a soil that are influenced by it's texture. (1½ marks)
4. State three different forms of agro forestry. (1½ marks)
5. Differentiate between monopoly and monopsony types of markets. (2 marks)
6. Name any four financial documents used in farm accounting. (2 marks)
7. Identify the variable costs in the production of maize. (1½ marks)
8. Give three parameters of expressing National Income. (1½ marks)
9. (a) Name the insect pests likely to attack maize in the field. (1 mark)
 (b) Give a possible parasitic weed in a maize field. (1 mark)
10. What are the causes of water logging on arable land? (2 marks)
11. Give four reasons for treating water before distribution. (2 marks)
12. State the importance of the following components used in preparation of compost manure. (3 marks)
 - i) Garden soil:
 - ii) Maize stalks:
 - iii) Organic manure:
13. List two types of labour records. (1 mark)
14. State the forms in which the following nutrients are absorbed by the plants. (1½ marks)
 - i) Nitrogen:
 - ii) Phosphorus:
 - iii) Potassium:
15. Give four reasons as to why use of certified seeds is recommended. (2 marks)
16. State three common symptoms of viral diseases in crops. (1½ marks)

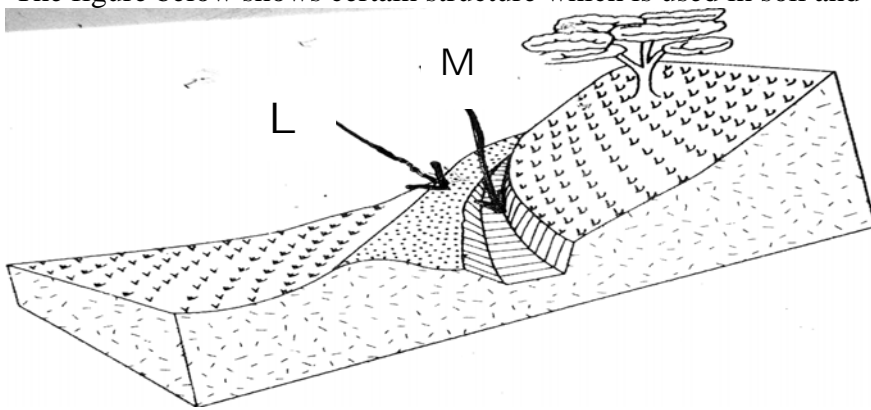
SECTION B

17. Study the diagrams illustrated below and answer the questions that follow.



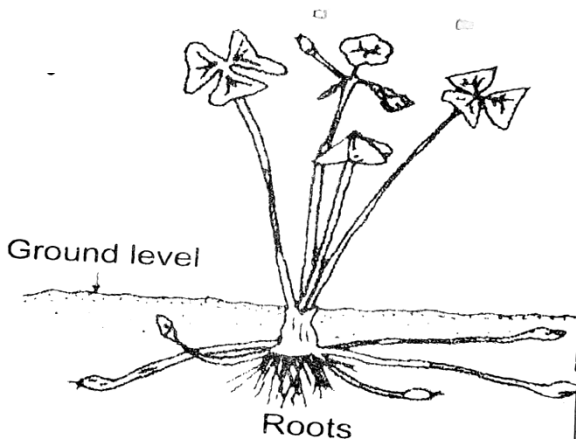
- (a) Identify the pest. (1 mark)
- (b) In what ways does the pest cause damage to the crop? (1½ marks)
- (c) State any three control measures of the pest. (3 marks)

18. The figure below shows certain structure which is used in soil and water conservation.



- (a) Identify the structure. (1 mark)
- (b) Name the parts labelled L and M. (2 marks)
- (c) State the function of each of the parts L and M. (2 marks)

19. Diagrams G and H below shows some weeds.



G



H

- (a) Identify the weeds. G & H (2 marks)
 - (b) Why is it difficult to control weed G.? (1 mark)
 - (c) Give two economic importance of weed H. (2 marks)
20. The following experiment was carried out to determine the humus content in a given soil sample. The sample weighing 150g was heated in an oven at 105°C. The dry soil was weighed and the weight recorded as 142g. The soil was then heated strongly after which the weight was recorded as 136g.
- (a) Calculate the % content of water in the soil sample. (2 marks)
 - (b) Why was the soil not heated strongly initially? (1 mark)
 - (c) Find the % content of humus in the soil sample. (2 marks)

SECTION C

- 21. (a) (i) Describe the procedure of harvesting pyrethrum. (4 marks)
- (ii) Explain the precautions that should be observed during harvesting of pyrethrum. (6 marks)
- (b) Explain the role of agricultural co-operatives in Kenya. (10 marks)
- 22. (a) Describe five farming practices that encourage minimum tillage. (5 marks)
- (b) Describe five roles of agricultural based women groups in farming. (5 marks)
- (c) Describe five cultural methods of soil and water conservation. (5 marks)
- (d) Describe preparations and handling of stem cuttings when planting Napier grass. (5 marks)

23. (a) Explain five factors that affect the seed rate. (5 marks)
 (b) The table below gives information on the supply and demand schedules for tomatoes in a market.

Table 1: price and quantities of tomatoes supplied

| Tomatoes (kg) | Price per kg (Ksh) |
|---------------|--------------------|
| 150 | 16.00 |
| 130 | 14.20 |
| 125 | 13.80 |
| 112 | 13.00 |
| 106 | 12.70 |
| 85 | 11.80 |
| 50 | 10.60 |
| 42 | 10.40 |
| 30 | 10.20 |
| 25 | 10.10 |

Table 2: prices and quantities of tomatoes demanded.

| Tomatoes (kg) | Price per kg (Ksh) |
|---------------|--------------------|
| 80 | 18.00 |
| 87 | 16.70 |
| 101 | 15.50 |
| 119 | 14.10 |
| 135 | 13.20 |
| 155 | 12.40 |
| 171 | 11.80 |
| 185 | 11.30 |
| 191 | 11.10 |
| 205 | 10.80 |

- (i) Using the above data plot supply and demand curve in the same axis. (7 marks)
 (ii) Determine the price at which 120 kg of tomatoes were supplied on the market. (1 mark)
 (iii) How many kilograms of tomatoes were bought at a market price of Ksh 13.00? (1 mark)
 (iv) What was the equilibrium price for tomatoes on the market? (1 mark)
 (d) Explain five factors that should be considered when siting a vegetable nursery. (5 marks)

KIHARU KAHURO

443/2

AGRICULTURE PAPER 2

JULY/AUGUST 2023

SECTION A

1. List down three reasons for feeding livestock. (1½ marks)
2. Give two reasons for feeding bees. (1 mark)
3. State the importance of guard rails in a farrowing pen. (1 mark)
4. State four effects of ticks on a livestock body. (2 marks)
5. Give four practices carried out on fish before preservation. (2 marks)
6. State three farm implements operated by the P.T.O shaft. (1½ marks)
7. List down three functions of the walking area in livestock house. (1½ marks)
8. Give four factors considered when selecting eggs for marketing. (2 marks)
9. Distinguish between a feedstuff and a feed. (1 mark)
10. Give four reasons for castrating male animals. (2 marks)
11. State three uses of hypodermic needle and syringe. (1½ marks)
12. Name the tool used together with: (1½ marks)
 - (a) Ball pein hammer:
 - (b) Rubber ring:
 - (c) Mallet:
13. Give four reasons for feeding livestock on colostrum. (2 marks)
14. State three types of specialized feeding practices in livestock. (1½ marks)
15. State three factors that stimulate milk letdown in dairy cows. (1½ marks)
16. State four causes of stress in a flock of layers. (2 marks)
17. List two equipments used in handling cattle during an agricultural exhibition. (1 mark)
18. State four disadvantages of natural mating. (2 marks)

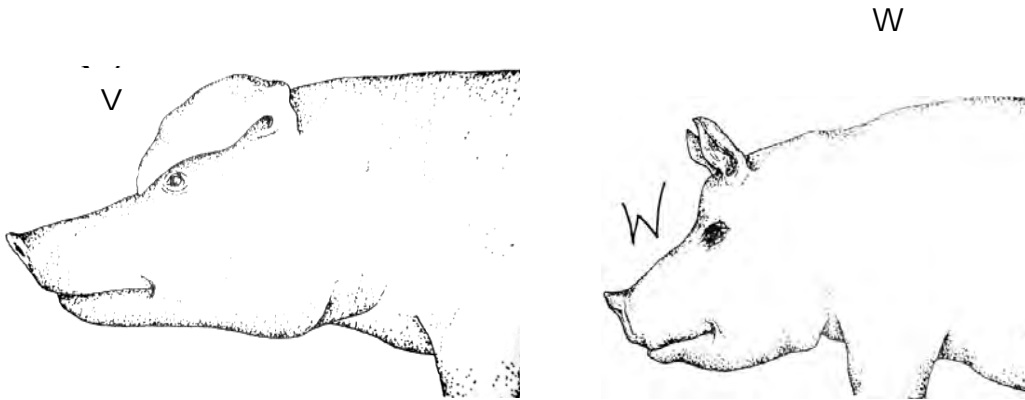
SECTION B

19. The diagram below illustrates a livestock parasite. Study it and answer the questions that follow.



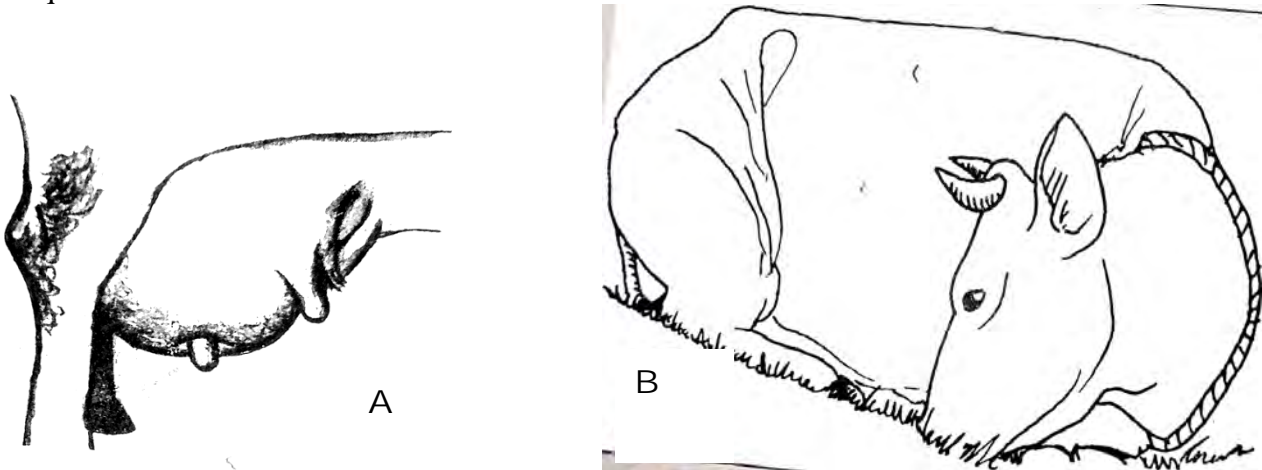
- (i) Identify the parasite. (1 mark)
- (ii) State three control measures of the parasite. (3 marks)

20. Study the diagram below and answer the questions that follow.



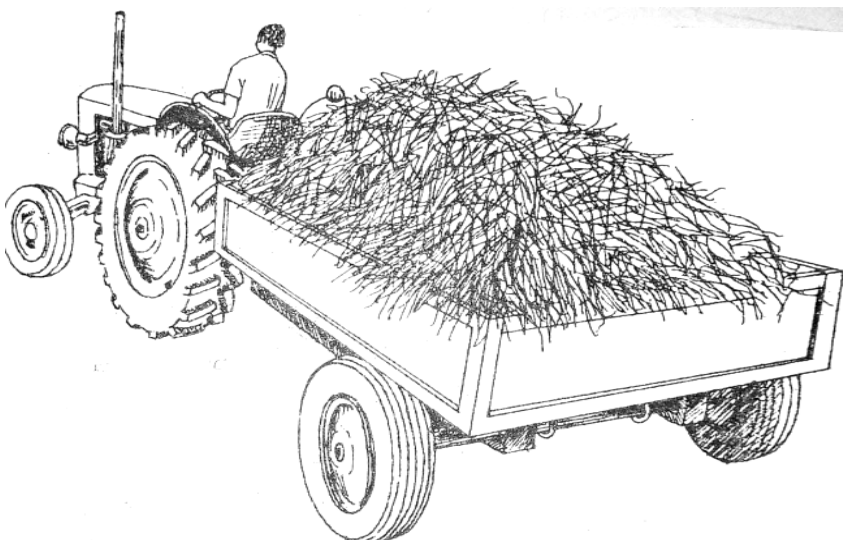
- (i) Name the two types of pig breeds. V & W (2 marks)
- (ii) List down three cultural importance of livestock. (3 marks)

21. The diagram below illustrates signs of two different livestock diseases. Study them carefully and answer the questions that follow.



- (a) Identify the diseases. A & B (2 marks)
- (b) State the cause of the disease condition labelled B in dairy cattle. (1 marks)
- (c) State two predisposing factors of the disease labelled A. (2 marks)

22. The diagram below shows a farm implement. Study it carefully and answer the questions that follow.



- (a) Name the implement. **(1 mark)**
 (b) Classify the implement according to the method of attachment. **(1 mark)**
 (c) List down four maintenance practices of the implement. **(4 marks)**

SECTION C. (Answer any two questions in this section)

- 23.** (a) Describe management practices carried out to ensure high fish yields from a fish pond. **(10 marks)**
 (b) Describe brucellosis disease under each of the following sub-headings.
 i) Causal organisms. **(1 mark)**
 ii) Symptoms of infection. **(4 marks)**
 iii) Control measures. **(5 marks)**
- 24.** (a) Describe conditions under which bees abscond the hive. **(5 marks)**
 (b) Explain five factors that affects digestibility of food in livestock. **(10 marks)**
 (c) State five advantages of using a subsoiler in seedbed preparation. **(5 marks)**
- 25.** (a) Explain five reasons for farm mechanization. **(5 marks)**
 (b) Explain the differences between diesel and petrol engine. **(10 marks)**
 (c) Explain five functions of water in an animal's body. **(5 marks)**

GATUNDU JOINT EXAM 2023

443/1

AGRICULTURE PAPER 1 2023

Section A (30 marks)

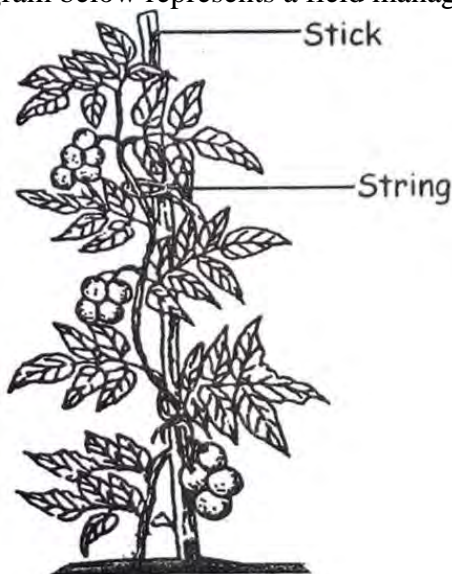
Answer all the questions in the spaces provided

1. State **four** reasons for intercropping. (2 mks)
2. Name four major methods of farming. (2 marks)
3. Give **four** reasons why land should be prepared early in readiness for planting. (2 mks)
4. Name **two** methods of surface irrigation (1mks)
5. State **two** conditions that must exist for a market to be purely competitive. (1 mk)
6. Name **four** types of market structures in agricultural marketing. (2 marks)
7. State **four** advantages of timely planting. (2 mks)
8. State **four** reasons why a nursery is important in crop production. (2 mk)
9. Distinguish between monopoly and monopsony. (2 mks)
10. Name the plant part used for vegetative propagation of each of the following plants:
 - (a) Cassava (1/2 mk)
 - (b) Sisal (1/2 mk)
 - (c) Pyrethrum (1/2 mk)
 - (d) Sweet potatoes. (1/2 mk)
11. State **two** methods of harvesting Agro-forestry trees. (1mk)
12. Give **four** advantages of title deed to a farmer. (2mks)
13. Give **two** ways of forage utilization. (1mk)
14. List **four** financial documents. (2mks)
15. State **two** methods of table formation in tea production. (1mk)
16. State **four** harmful effects of crop pests in crop production. (2mks)
17. List **four** surface water sources found in a farm (2mks)
18. Give three types of manures. (3 mks)

SECTION B (20 marks)

Answer all the questions in this section in the spaces provided.

19. The diagram below represents a field management practice carried out on tomatoes



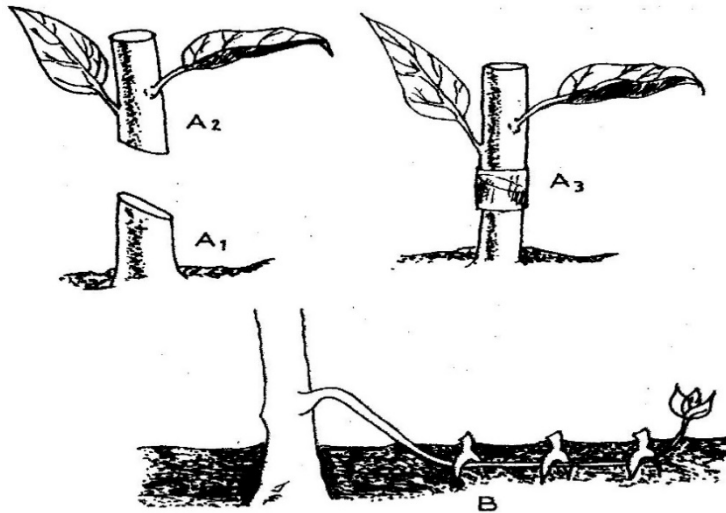
- a) Identify the above practice. (1mark)
- b) Give three reasons for carrying out the above practice. (3mks)
- c) Name two tomato pests (2mks)

20. The table below shows a format of a farm record.

| Date | Disease Symptom | Livestock affected | Drugs used | Cost of treatment | Remarks |
|------|-----------------|--------------------|------------|-------------------|---------|
| | | | | | |

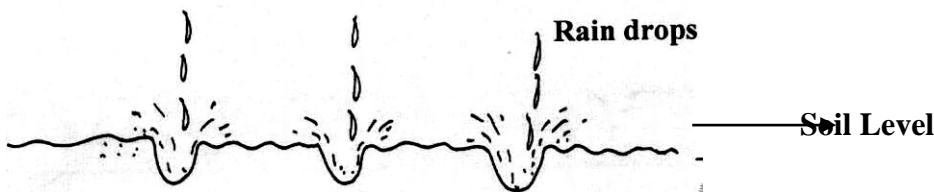
- (a) Name the farm record illustrated above. (1 mk)
- (b) Give **two** uses of the farm record shown above. (2 mks)

21. The diagrams labeled A₁, A₂, A₃, and B below illustrate materials and methods of vegetative propagation. Study them and answer the questions that follow.



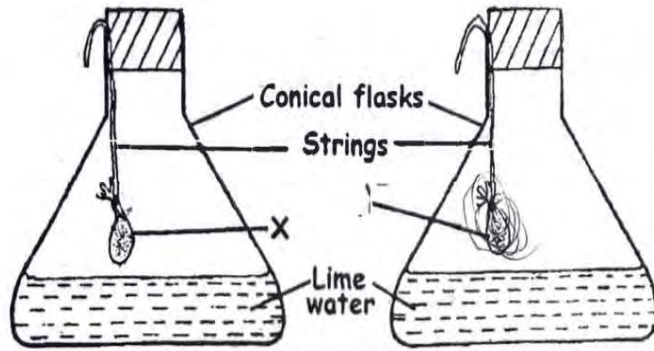
- (a) Name the parts labeled A₁, and A₂ (2 mks)
- (b) Name the methods of propagation illustrated in diagrams A₃ and B (2 mks)

22. The diagram below illustrates a type of soil erosion. Study it carefully and answer the questions that follow.



- i) Identify the type of erosion illustrated above. (1mk)
- ii) State **two** measures that could be used to control the type of soil erosion illustrated above. (2mks)

23. The experiment below was set up by form one students. X is fresh garden soil while Y is strongly heated soil.



- a. State the aim of the above experiment. (1 mark)
 b) Explain the observations made. (3 marks)

SECTION C (40 marks)

Answer any two questions from this section in the spaces provided after question 23.

24. a) Explain **eight** cultural methods of soil and water conservation. (8 mks)
 b) Explain **seven** physical methods of pest control. (7 mks)
 c) Explain **eight** factors that contribute to the competitive ability of weeds. (8 mks)
25. a) Why is pruning done in crop production? (10 mks)
 b) Describe the field management practices for onions (5 mks)
 c) Explain five farming practices that destroy soil structure (5 mks)
26. a) Outline **six** ways in which high temperature affects agricultural production in Kenya. (6 mks)
 b) Describe the production of bulb onions under the following sub-headings:
 (i) Field management; (4 mks)
 (ii) harvesting. (3 mks)
 (c) Explain **seven** factors that influence seed rates in crop production. (7 mks)

GATUNDU JOINT EXAMINATION 2023

AGRICULTURE 443/2

PAPER 2

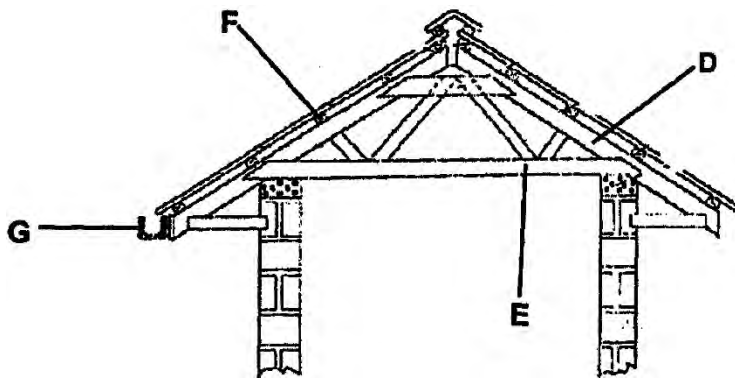
1. Give **two** reasons for tooth clipping in piglets. (1mk)
 2. State **four** disadvantages of natural incubation in poultry production. (2mks)
 3. Give **two** benefits of scattering grains in a deep litter poultry house. (1mk)
 4. List **two** predisposing factors of foot rot in sheep. (1mk)
 5. Give **four** factors that affect milk composition. (2mks)
 6. State **two** control measures for keds in sheep. (1mk)
 7. State **two** functions of a queen in a bee colony (1mk)
 8. Name the nutritional deficiency for each of the following livestock diseases.
 (a) Milk fever;..... (1/2mk)
 (b) Bloat ;.....(1/2mk)
9. Name **four** sources of farm power. (2mks)
 10. State **four** symptoms of fowl typhoid. (2mks)
 11. State **three** field conditions under which a disc plough should be used instead of a mould board plough. (11/2mks)
 12. Give **two** uses of a foot bath in a plunge dip. (1mk)
 13. List **two** materials used in the construction of a green house. (1mk)

14. What is meant by dry cow therapy as used in livestock production. (1mk)
15. Name **one** hair goat breed. (1mk)
16. State **two** functions of caecum in poultry production. (1mk)
17. Outline **four** structural features of a calf pen. (2mks)
18. Name **four** routes through which pathogens can enter into an animals' body. (2mks)
19. State **three** care and maintenance practices carried out on a wheelbarrow. (1 1/2 mks)
20. Outline **four** reasons for steaming up a gestating cow. (2mks)
21. State **four** factors that lead to depreciation of farm equipment. (2mks)

SECTION B (20 MARKS)

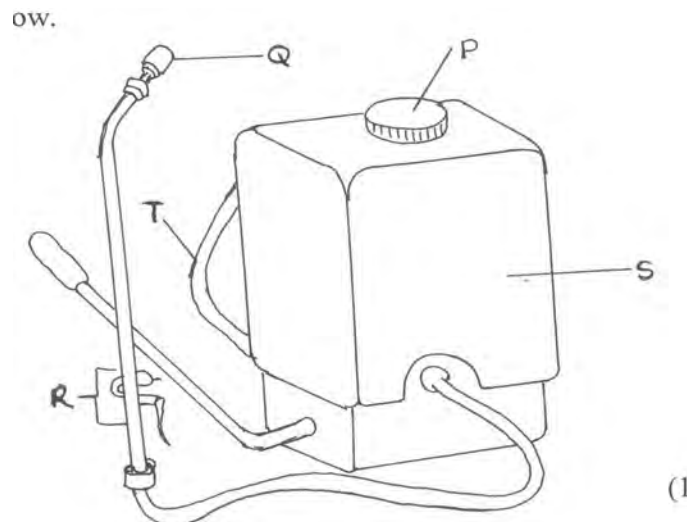
Answer all the questions in this section in the spaces provided.

22. Study the illustration below and answer the questions that follow.



- (a) Identify the parts D, E, F and G (4mks)
- (b) State **one** use of the part labelled F & G (2mks)

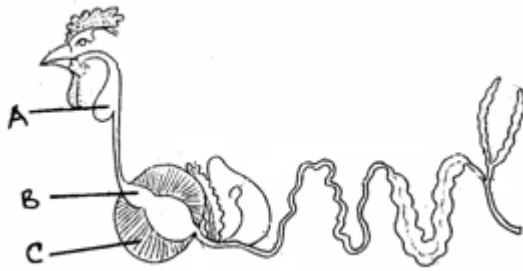
23. The diagram below shows an equipment in crop production. Study it and answer the questions that follow.



- (i) Identify the equipment. (1mark)
- (ii) State the functions of the parts labeled S , Q, and R (3marks)
- (iii) State **one** use of the equipment illustrated above. (1mark)

- (iv) Give **two** maintenance practices that should be carried out on the equipment above. (2mks)

24. The following is a diagram showing part of the poultry's digestive system. Use it to answer the question that follow.



- i) Name the parts labelled **A, B, C**. (3mks)
 ii) Give **two** structural adaptations of **C** to its functions. (2mks)
 iii) State two functions of the part labeled **A** (2mks)

SECTION C [40 MARKS]

Answer any two questions from this section in the spaces provided after question 27.

- 25 a) **Outline five** characteristics of the exotic cattle breeds [5 marks]
 b) **Describe five** major parts of a spray race [5 marks]
 c) **Outline five** advantages of the kenya top bar hive [5 marks]
 d) **State five** signs of external parasite infestation in livestock [5 marks]
- 26 a) **Describe** the life cycle of a two host tick [5marks]
 b) **Outline** five structural and functional differences between petrol and diesel engines. (5mks)
 c) Describe **ten** characteristics of a good layers [10 marks]
- 27 a) Explain **five** factors affecting digestibility [5 marks]
 b) **Describe** East Coast Fever [ECF] under the following headings;
 i) Causal organism [1 mark]
 ii) Symptoms [5marks]
 iii) Animals attacked [1 mark]
 iv) Control [3marks]
- c) **Describe** the functions of the following units of the power transmission system
 i) Clutch [2 marks]
 ii) Gearbox [3 marks]

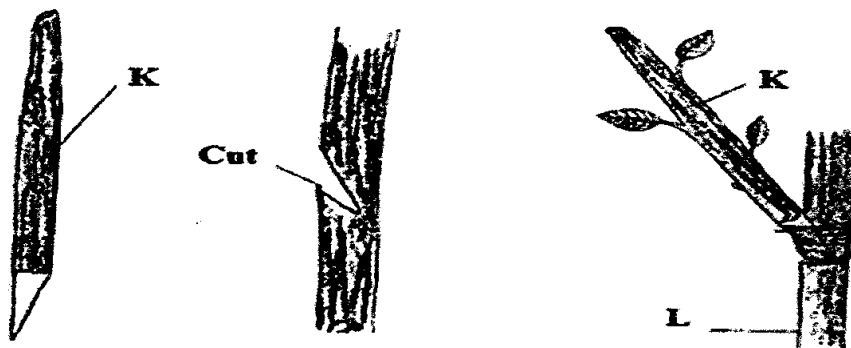
CEKENAS ONE EXAM-2023
443/1
AGRICULTURE PAPER 1
TERM I 2023

SECTION A (30 MARKS)

1. Which branch of Agriculture deals with:
 - (a) Utilization of scarce resources (1mk)
 - (b) Maintenance of farm tools and equipment (1mk)
2. Give the meaning of the following terms:-
 - (a) Pomology (1mk)
 - (b) Apiculture (1mk)
 - (c) Plantation farming (1mk)
3. Distinguish between a dam and a weir (1mk)
4. Give four advantages of high level of education and technology in farming (2mks)
5. (a) What is mixed farming? (1mk)
- (b) Give two disadvantages of mixed farming to a small scale farming (1mk)
6. What is meant by the term “changing the cycle” in coffee growing (1mk)
7. Give four advantages of using seeds as planting materials (2mks)
8. Give two reasons why a farmer should intercrop maize and beans (2mks)
9. State two unusual areas that should be avoided when soil sampling (1mk)
10. Give a reason why nitrogenous fertilizers should:
 - (i) Be stored under dry conditions (1/2mks)
 - (ii) Be applied frequently (1/2mks)
 - (iii) Be applied on moist soils (1/2mks)
11. State two post harvest practices of maize (2mks)
12. a) What is land tenure? (1/2mk)
- b) State three types of individual tenure system in Kenya (1 ½ mk)
13. State four factors considered when selecting planting materials for forage crops (2mks)
14. State three uses of a garden rake in preparation of a nursery bed (1½mk)
15. State four ways in which minimum tillage can be achieved: (2mks)
16. Give two ways a farmer would improve the soil structure of a water logged clay soil (1mk)
17. State two characteristics of a cutting for vegetable propagation (1mk)
18. State two uses of mulch materials in soil and water conservation (1mk)

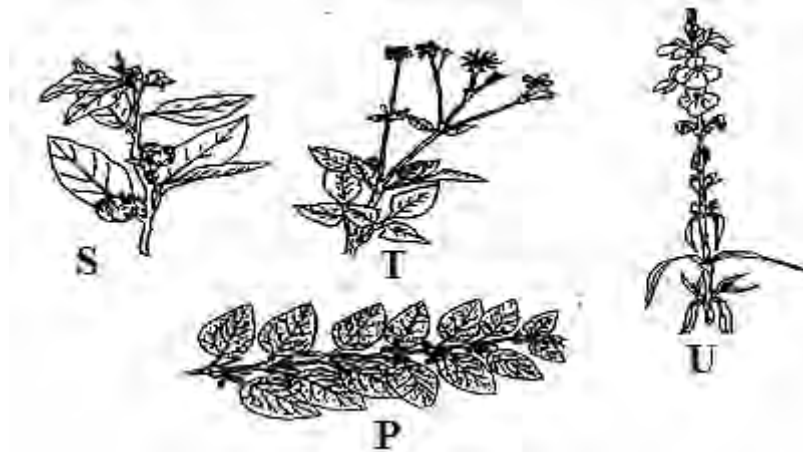
SECTION B (20 MARKS)

19. Below is a method in crop improvement in crop production. Study it carefully and answer questions that follow:-



- a) Identify the practice (1 mark)
- b) Identify the parts labeled K and L (2mks)
- c) Explain three advantages of the above practice in crop production (3mks)

20. Below are weeds. Study them carefully and answer questions that follow



- a) Identify weeds labeled S, T, U , and P (2mks)
 b) Explain three factors which contribute to the competitive ability of weeds (3mks)
21. a) A crop was spaced at 90cm x 30cm.
 Calculate the plant population of this crop in one hectare of land.
 Show your working (2mks)
 b) State two practices used to maintain the required plant population in a given area (2mks)
 c) What is the importance of maintaining optimum plant population (1mk)
22. Below is a method of irrigation. Study it carefully and answer questions that follow



- a) Identify the method (1mk)
 b) Other than the above method, give any other two types of surface irrigation (2mks)
 c) Give two ways in which the above method of irrigation can be maintained (2mks)

SECTION C (40 MARKS)

ATTEMPT ANY TWO QUESTIONS IN THE SPACE PROVIDED

23. Describe the production of bulb onions under the following sub-headings
- i) Varieties (1mk)
 - ii) Land preparation (2mks)
 - iii) Field management practices (8mks)
 - iv) Outline the steps followed in silage making (9mks)
24. a) Outline cultural pests control methods in crops (5mks)
 b) Explain eight uses of farm records (8mks)
 c) Explain seven effects of strong winds in agriculture (7mks)
25. a) Describe the production of carrot under the following sub-headings
- i) Land preparation (2mks)
 - ii) Harvesting (3mks)
- b) Describe the sowing of vegetable seeds in a nursery bed (5mks)
 c) Outline methods of draining water logged soils (5mks)
 d) Explain how each of the following climatic factors affect agricultural production

- i) Light (3mks)
- ii) Low temperatures (2mks)

CEKENAS ONE EXAM-2023

443/2

AGRICULTURE PAPER 2

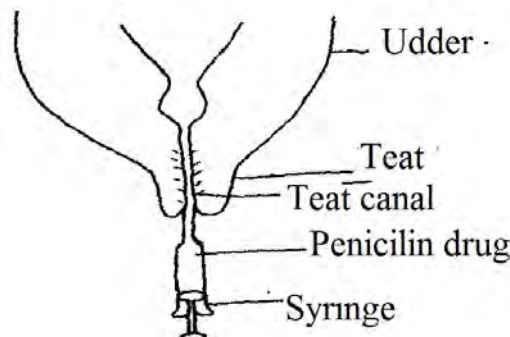
SECTION A (30 MARKS)

1. State **four** qualities of eggs preferred by consumers in the market (2mks)
2. State **four** factors that can affect maintenance ration requirements of an animal (2mks)
3. Outline **three** effects of tsetse flies on livestock (1 ½ mk)
4. State the functions of the following hormones in livestock (1 ½ mk)
 - (a) Oxytocin
 - (b) Stilbestrol
 - (c) Progesterone
5. Name **four** systems of a tactor (2mks)
6. State the importance of each of the following practices in livestock production (3mks)
 - (i) Iron injection in piglets
 - (ii) Docking of lambs
 - (iii) Debeaking in poultry
7. State **two** roles of a drone in a bee colony (1mk)
8. (a) Identify **three** body parts infested by a three-host tick on a boran bull (2mks)
 - (b) List **three** protozoan diseases that are spread by vectors (1 ½ mks)
9. (a) Give **two** faults of ignition system (1mk)
 - (b) Mention any **two** implements which can be used for harvesting crops (2mks)
10. Give **four** reasons for breeding in livestock (2mks)
11. Name **four** routine management practices carried out in a crush (2mks)
12. (a) State **two** ways of increasing depth of ploughing when using mouldboard Plough (1mk)
 - (b) Name **four** tools used for plumbing (2mks)
13. Differentiate between brooding and incubation as used in poultry production (1mk)
14. Give **four** advantages of using stones as construction materials (2mks)
15. Define the term “digestibility” (1mk)

SECTION B (20 MARKS)

ATTEMPT ALL THE QUESTIONS IN THIS SECTION

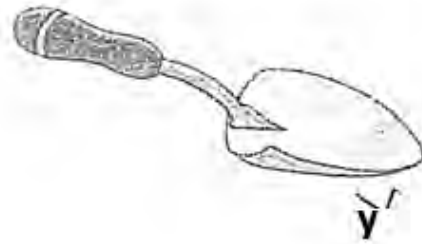
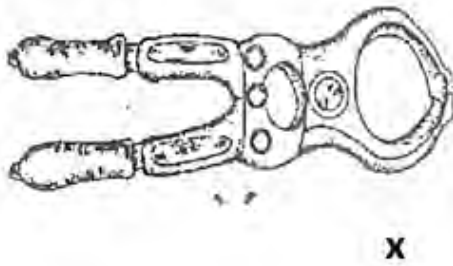
16. A farmer wanted to prepare 270kg of livestock feed containing 30% DCP by using Sorghum meal with 12% DCP and Soyabean meal containing 36% DCP. Calculate the quantities of each feedstuff he would have in the ration (5mks)
17. The activity illustrated below indicates a task undertaken in farm animals



- (i) Identify the above practice (1mk)
- (ii) State the importance of the above activity (1mk)
- (iii) Name **two** other diseases that only attack female cattle (2mks)
- (iv) Give **two** predisposing factors of mastitis disease in a cow (1mk)

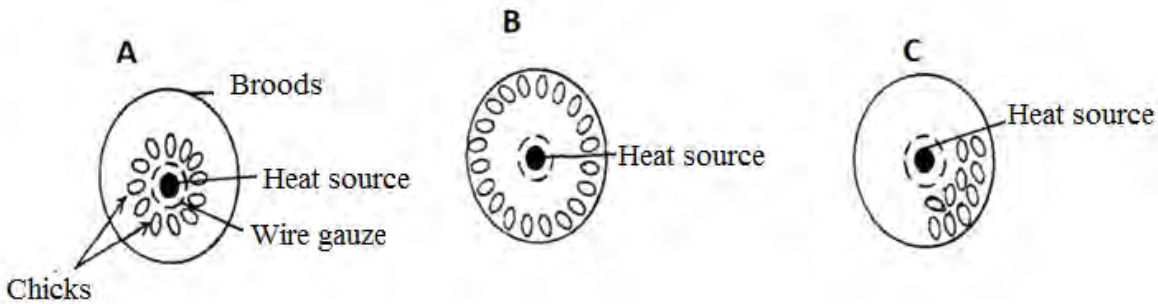
18. a) (i) Identify the tools below
 X
 Y

(1mk)



- ii) State two maintenance practices carried out on tool Y (2mks)
 b) Name the tools used in conjunction with the following tools (2mks)
 i) Trocar.....
 ii) Hand drill.....
 iii) Leadstick.....
 iv) Mallet.....

19. Below are illustrations showing the behavior of chicks in various brooders. Study the diagram and answer the questions that follow



- i) State the environmental problem in each brooder as illustrated by the behavior of the chicks (3mks)
 ii) State two ways of overcoming the problem in B (2mks)

SECTION C (40 MARKS)

ATTEMPT ANY TWO QUESTIONS IN THE SPACE PROVIDED

20. a) Describe advantages of artificial insemination (8mks)
 b) Outline eight advantages of farm mechanization (8mks)
 c) Give four characteristics of a large white breed of pig (4mks)
 21. a) Describe the milking procedure under the following sub-headings (5mks)
 (i) Pre-milking procedure (5mks)
 (ii) Post-milking procedure (5mks)
 b) Describe parts of a piggery unit (5mks)
 c) Give five reasons for keeping livestock healthy (5mks)
 22. a) Describe the management of a day old layer chick up to the end of brooding (10mks)
 b) Describe trypanosomiasis disease under the following sub-headings (1mk)
 i) Causal organism (1mk)
 ii) Animal attacked (5mks)
 iii) Symptoms of attack (3mks)
 iv) Control measures and treatment

(3x1=3mks)

BUURI - PRE-KCSE BELT 2 JOINT EXAMINATION

443/1

AGRICULTURE PAPER 1

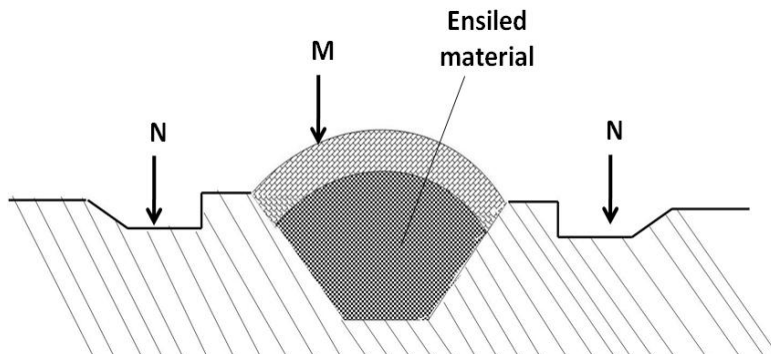
SECTION A: 30 MARKS

1. List **four** methods of farming. (2marks)
2. Give **four** factors that would determine the stage at which a crop is harvested. (2marks)
3. Give three reasons for early seedbed preparation. (1½marks)
4. State **four** disadvantages of organic mulches. (2 marks)
5. Outline four functions of magnesium in crops . (2 marks)
6. State four objectives o f land tenure reform . (2marks)
7. State two disadvantages of late defoliation in pasture management . (1mark)
8. Define the following terms as used in economics .
 - (a) National income (1mark)
 - (b) Per capita income (1mark)
9. Give four benefits of a good soil structure in crop production . (2marks)
10. Name **four** farm records that should be kept by a poultry farmer. (2marks)
11. Give three factors that should be considered when choosing the type of labour to use on the farm. (1½ marks)
12. State four ways in which burning of vegetation may lead to lose of soil fertility (2 marks)
13. State **four** symptoms of viral diseases in crops. (2marks)
14. State **three** methods of classifying herbicides. (1½marks)
15. Give **four** methods of applying fertilizers to crops. (2marks)
16. State **three** advantages of drip irrigation (1½ marks)
17. Outline **two** ways of controlling damping off diseases on vegetable seedlings in a nursery (1mark)

SECTION B(20 MARKS)

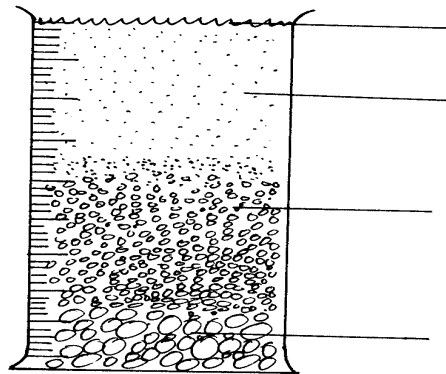
Answer all the questions in this section in the spaces provided

18. The diagram below shows a silo. Study it carefully and answer the questions that follow.

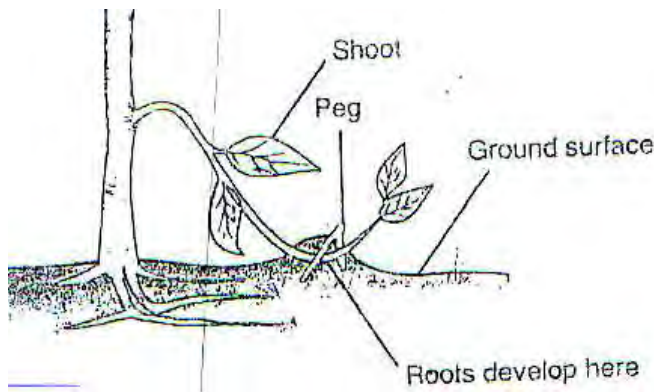


- a) Identify the type of silo shown on the diagram. (1mark) .
- b) State the use of the part labeled M and N (2marks)
- c) Give **two** ways of ensuring that anaerobic conditions are achieved during silage making process. (2marks)

19. Form two student put some soil sample in a measuring cylinder, added some water and sodium carbonate and then covered the cylinder with the hand and shook the cylinder for about two minutes. He left the cylinder on the bench for one hour. The result was as shown below.



- (i). **Name** the layers marked a,b,c, and d. (2marks)
 (ii) What was the function of sodium carbonate in this experiment? (1mark)
 (iii). What was the aim of this experiment ? (1mark)
20. Study the diagram below of crop propagation and answer the following questions



- a) Identify the propagation method (1mark)
 b) State two factors that encourage root formation in the above method of propagation (2marks)
 c). Name two crops that can be propagated using the above method (2marks)
21. a) Describe the procedure which should be followed in spraying a crop in tomatoes using a fungicide in powder form, water and a knapsack sprayer. (3marks)
 b) Name one fungal disease of tomatoes that can be controlled using the above procedure. (1marks)
 c) State four safety measures that should be taken while spraying the crop with the fungicide. (4marks)

SECTION C (40 MARKS)

Answer any TWO questions from this section in the spaces provided after question.

22. a) Explain **five** factors that should be considered when siting a vegetable nursery. (5marks)
 b) Explain six factors that should be considered when selecting seeds for planting. (6marks)
 c) Explain the different ways in which each of the following environmental factors Influence crop production:
 (i) Temperature; (4marks)
 (ii) Wind. (5marks)
23. a) Explain the benefits of land consolidation. (6marks)
 b) Briefly explain **six** factors influencing mass wasting. (6marks)
 c) Explain **four** ways of improving labour productivity (8marks)

- 24 a) Explain five factors that determine the spacing to be used in crops. (10marks)
 b) Describe seven nursery practices carried out while seedlings are still growing. (7marks)
 c) Outline three precautions taken in harvesting tea. (3marks)

BUURI - PRE-KCSE BELT 2 JOINT EXAMINATION

443/2

AGRICULTURE PAPER 2

SECTION A (30 MARKS)

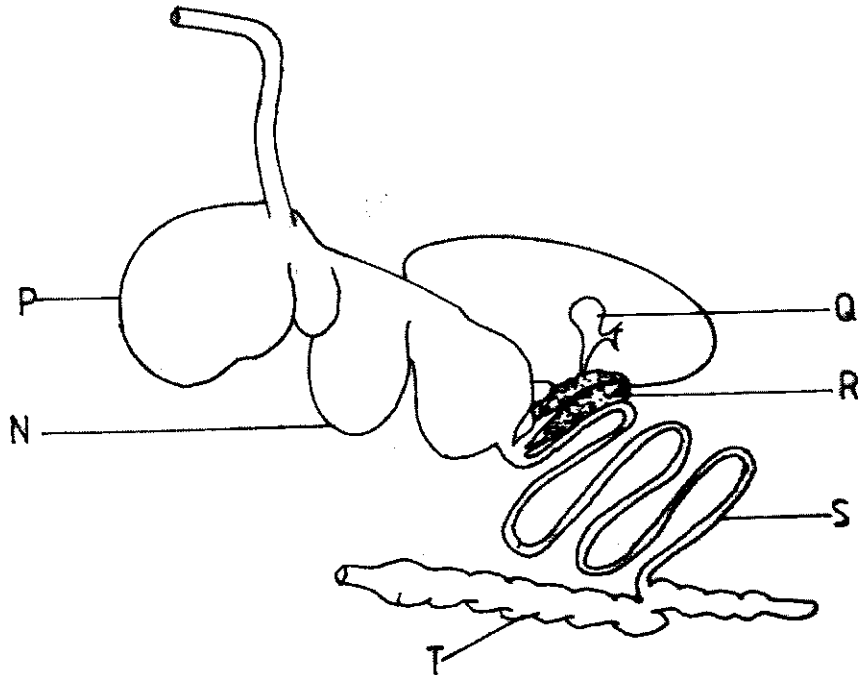
ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

1. List two cattle diseases caused by viruses. (1mark)
2. State one use for each of the following tools
 - a) Spoke shave
 - b) Plumb bob
3. List two distinguishing external characteristics of California breed of rabbit. (1mark)
4. State four reasons for culling a breeding boar . (2marks)
5. State any two disadvantages that may arise from inbreeding in livestock. (1mark)
6. State two reasons for seasoning timber before use . (1mark)
7. a) Differentiate between a roughage and a concentrate feed in animal nutrition. (1mark)
 b) State four desirable qualities of a livestock ration. (2marks)
8. State three factors that may influence the amount of water intake by a farm animal .(1 ½ marks)
9. State three advantages of keeping a herd of dairy cattle healthy. (1½ marks)
10. Give three reasons for dehorning cattle. (1½ marks)
11. Give two methods of extracting honey from honey combs (1mark)
12. a) Give four reasons for candling eggs in poultry production. (2marks)
 b) Give four maintenance practices that should be carried out on the mould board plough. (2marks)
13. a) List four harmful effects of internal parasites in livestock. (2marks)
 b) (i) Give two reasons for washing the udder with warm water before milking . (1mark)
 (ii) Name three dairy goats kept in Kenya . (1½ marks)
14. Name **two** diseases that affect female animals only (1mark)
15. What is the function of a spillway in a fish pond (½ mark)
16. Name three types of lubrication systems used in tractors . (1½ marks)
17. Give the functions of the following parts of an ox-plough
 - a) Land side
 - b) Draft rod
18. Give three structural requirements for a grain silo. (1½ marks)
19. State three advantages of natural feeding in calf rearing. (1½ marks)

SECTION B (20 MARKS)

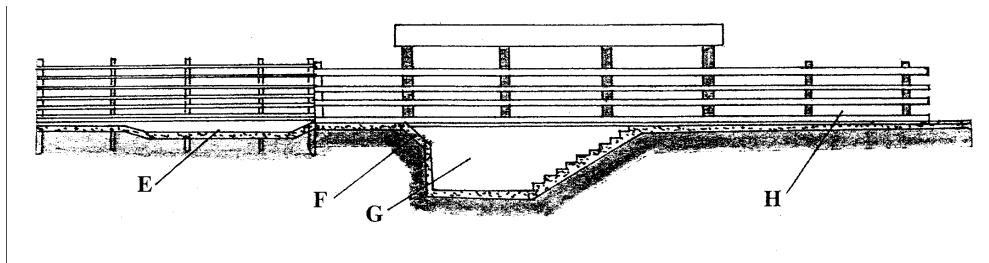
Answer all the questions provided in this section in the spaces provided

20. The diagram below shows the digestive system of cattle. Study it and answer the questions that follow.



- a). Name the parts labelled N, P and Q. (2 mark)
- b). State one function for each of the parts labelled S and T. (2mark)
- c). Give one enzyme produced by each of the parts labelled R and S. (1 marks)

21. The illustration below shows a cross section of a cattle dip.



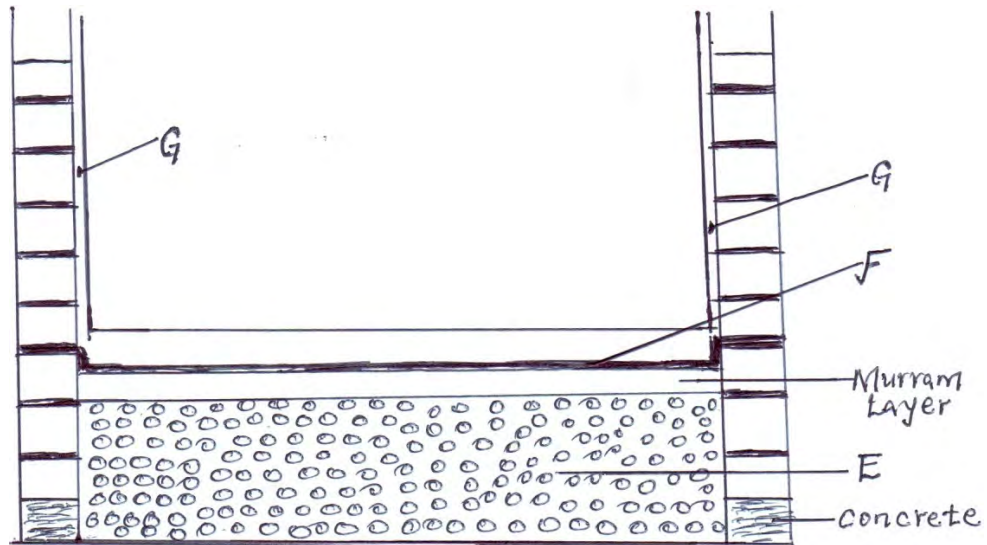
- a) Name the parts labelled E and G. (2mark)
- b) State one use for each of the parts labelled E, F and H. (3marks)

22. The following diagrams show animals with deficiency symptoms of some minerals. Study the diagrams carefully and answer the questions that follow.



- a) State the nutrients lacking in the diet of each animal shown above.
 Animal G (1mark)
 Animal H..... (1mark)

- b) Name the disease whose symptoms are shown by the animal labeled G above. (1 mark)
 c) Give **two** reasons why the disease named in (b) above should not be controlled by giving medicine through the mouth. (2marks)
23. The diagram below represents a foundation of a farm structure .Study it and answer questions that follow .



- (a) Identify the parts labeled E and F . (2mark)
 (b) State two uses of part labeled F in a foundation structure . (2marks)
 (c) What ingredients are used to complete part G (1mark)

SECTION C (40 MARKS)

Answer any two questions in this section in the spaces provided at the end of each question.

24. a) Describe the uses of fences on the farm. (10 marks)
 b) Describe Newcastle disease under the following sub-headings
 (i) causal organism; (1 mark)
 (ii) signs of infection; (7 mark)
 (iii) control measures. (2 marks)
25. a) Describe the rearing of lambs from lambing up to weaning time (10 marks)
 b) Explain **five** causes of livestock diseases (5 marks)
 c) State **five** differences between Ruminants and non Ruminants (5 marks)
26. a) State and explain **five** preventive measures of livestock diseases. (10 Marks)
 b) Describe long term service carried out during tractor servicing. (6 Marks)
 c) Outline four functions of the gearbox in a tractor. (4 Marks)

BOKAKE FORM IV JOINT EVALUATION 2023

443/1

AGRICULTURE PAPER 1

JULY/AUGUST 2023

SECTION A (30 MARKS)

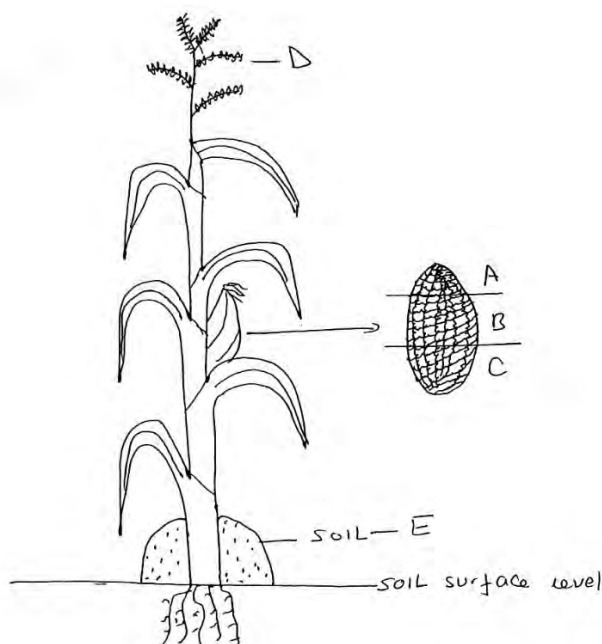
Answer all the questions in this section.

1. Name two field practices that are carried out to obtain optimum plant population in a crop field. (1 Mark)
2. List four post-harvest practices that are carried out in maize production. (2 Marks)
3. State two effects of high rainfall intensity to farming. (1 Mark)
4. State four ways in which a farmer can improve the structure of water logged clay soil. (2 Marks)
5. List four factors that determine the type of irrigation used in crop production. (2 Marks)
6. State four symptoms of potassium deficiency in crops. (2 Marks)
7. State any four disadvantages of using non capped multiple stem pruning in coffee. (2 Marks)
8. state two practices which are carried out during hardening off in seedlings. (1 Mark)
9. Give two conditions in economics when opportunity cost is zero. (1 Mark)
10. State four advantages of organic farming. (2 Marks)
11. State four disadvantages of organic mulch in crop production. (2 Marks)
12. State four problems that may be brought up by hardpan in crop land. (2 Marks)
13. State four pieces of information contained in land title deed. (2 Marks)
14. Differentiate between seedbed and a seedling bed. (2 Marks)
15. Give four reasons why it is difficult to control Sodom apple weed in crop fields. (2 Marks)
16. Give two reasons for imposing quarantine on imported planting materials. (1 Marks)
17. Give four benefits of top dressing in management of grass pasture. (1 Marks)
18. Define the following terms as used in crop production. (1 Mark)
 - (a) trellishing
 - (b) stooking.
19. Outline two ways of controlling damping off diseases on vegetable seedlings in nursery. (1 Mark)

Section B (20 Marks)

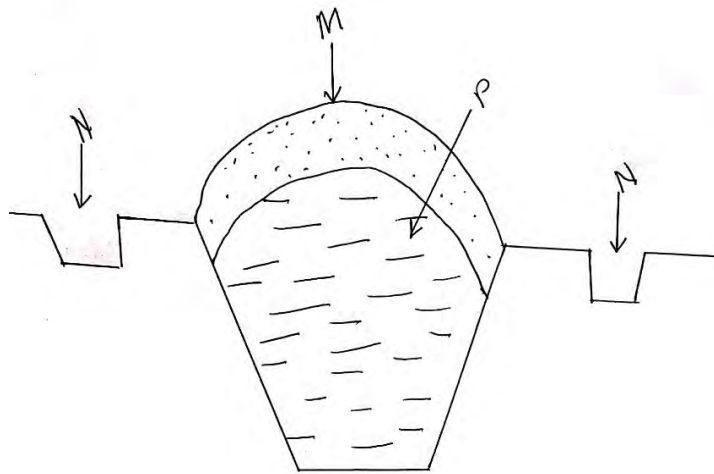
Answer all questions in the spaces provided.

20. The diagram below illustrates a maize crop plant and its produce. Study the diagram and answer the questions that follow.



- (a) Name one disease that attacks the part of the plant labelled D. (1 Mark)
- (b) From which section of the produce labeled A, B and C should seeds for planting be obtained? ($\frac{1}{2}$ Mark)
- (c) Give one reason for the answer given in (b) above. (1 Mark)
- (d) Which practice is done on part E? ($\frac{1}{2}$ Mark)
- (e) State the importance of the practice in the following crops.
- (i) Maize ($\frac{1}{2}$ Mark)
- (ii) Irish potato ($\frac{1}{2}$ Mark)
- (iii) At what stage of growth should the above practice be carried out on maize? ($\frac{1}{2}$ Mark)
- (f) A plot measuring 4 M by 3 M was prepared for planting maize at a spacing of 30 cm by 90 cm. Calculate the plant population in the plot. (Show your working). ($1\frac{1}{2}$ Mark)

21. The diagram below shows a silo. Study it carefully and answer the questions that follow.



- (a) Identify the type of silo shown. (1 Mark)
- (b) Identify the part labeled P. ($\frac{1}{2}$ Mark)
- (c) State the use of the part labeled M & N (1 Mark)
- (d) Give two ways of ensuring that anaerobic conditions are achieved during silage making process. (2 Mark)
- (e) Name three other types of silage that are used in the farm. ($1\frac{1}{2}$ Mark)
- (f) Outline three ways in which silage losses occur during ensiling. ($1\frac{1}{2}$ Mark)

22. Use the information on the table below to answer the questions that follow.

| Fertilizer input Units | Maize yield Bags | Maize product Bags |
|---------------------------|---------------------|-----------------------|
| 0 | 50 | — |
| 1 | 62 | 12 |
| 2 | 66 | 4 |
| 3 | 68 | 2 |
| 4 | 69 | 1 |

The cost unit of fertilizer is sh 1500 per unit and price of maize is sh 1200 per bag.

- (i) At what unit of fertilizer input should the farmer be advised to stop applying more fertilizer to the maize. (1 Mark)
- (ii) Give a reason for your answer in (a (i)) above. (1 Mark)
- (iii) Calculate the marginal return at the point of optimum production. (1 Mark)
- (iv) State the law of diminishing returns in a crop production function process. (1 Mark)
- (v) Name and explain three ways of combining inputs in production. (1 Mark)

Section C (40 Marks)

Answer only two questions. Each question carry 20 Marks.

- 23. a) Describe effects of land fragmentation and sub-division. (6 Marks)
- b) What advantages does a farmer holding a title deed have over one who does not have a title deed. (4 Marks)
- c) Describe the cultural methods a farmer would employ to control crop diseases. (10 Marks)
- 24. (a) State the importance of the following during chemical water treatment.
 - (i) Filtration at water intake. (1 Mark)
 - (ii) Softening. (1 Mark)
 - (iii) Chlorination (1 Mark)
 - (iv) Coagulation and sedimentation. (2 Mark)
- (b) State seven roles of a farm manager. (7 Marks)
- (c) Explain four ways a farmer can adjust to uncertainty and risks. (8 Marks)
- 25. (a) Discuss the classification of pesticides according to their mode of action. (10 Marks)
- (b) Outline any seven general post-harvesting practices carried out on crops. (7 Marks)
- (c) Give three pieces of information a dairy farm manager should collect for planning purposes. (3 Mark)

BOKAKE JOINT EXAMINATIONS

443/2

AGRICULTURE PAPER 2

JULY/AUGUST, 2023

SECTION A (30 MARKS)

Answer ALL the questions in the spaces provided

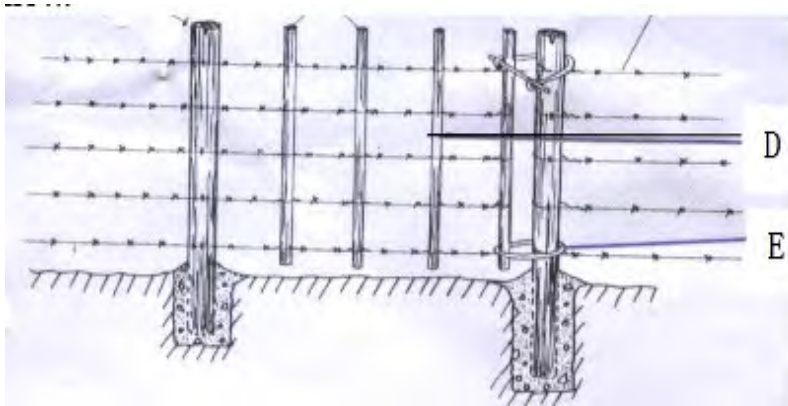
- 1. Name four dairy cattle breeds reared in Kenya. (2mks)
- 2. Give four reasons for castrating male goats. (2mks)
- 3. Give two parasites of cattle which are also disease vectors (1mk)
- 4. List two possible causes of overheating in a tractor engine (1mk)
- 5. Mention the use of the following tools. (2mks)
 - i) Dibber.....
 - ii) Spoke shave
 - iii) Tinsnips.....
 - iv) Burdizzo
- 6. State the importance of the following in livestock nutrition:
 - i) Water (1mk)
 - ii) Vitamin A (1mk)
- 7. State four management practices that should be carried on a fish pond in order to obtain Maximum fish production. (2mks)
- 8. a) State two reasons for washing the udder of a cow with warm water before milking. (1mk)

- b) Name the hormone that causes each of the following in dairy cows:.
- i) Milk let down. (1mk)
 - ii) lactogenesis (1mk)
9. Differentiate between 'breed' of animal and 'type' of animal. (2mks)
10. Name two livestock diseases that are spread through natural mating. (1mk)
11. Name the compartment of the ruminant stomach where microbial digestion takes place. (1mk)
12. List four precautions that should be taken when using workshop tools and equipment. (2mks)
13. State four methods of increasing the depth of penetration of a disc harrow. (2mks)
14. List four factors considered when formulating livestock ration. (2mks)
15. State four conditions that necessitate the handling of farm animals (2mks)
16. State four abnormalities of eggs that can be detected during egg candling. (2mks)
17. List two events which occur during induction stroke in a four stroke engine. (1mk)

SECTION B (20 MARKS)

Answer ALL the questions in the spaces provided.

18. The diagram below shows a type of a farm gate. Study the diagram and answer the questions that follow.

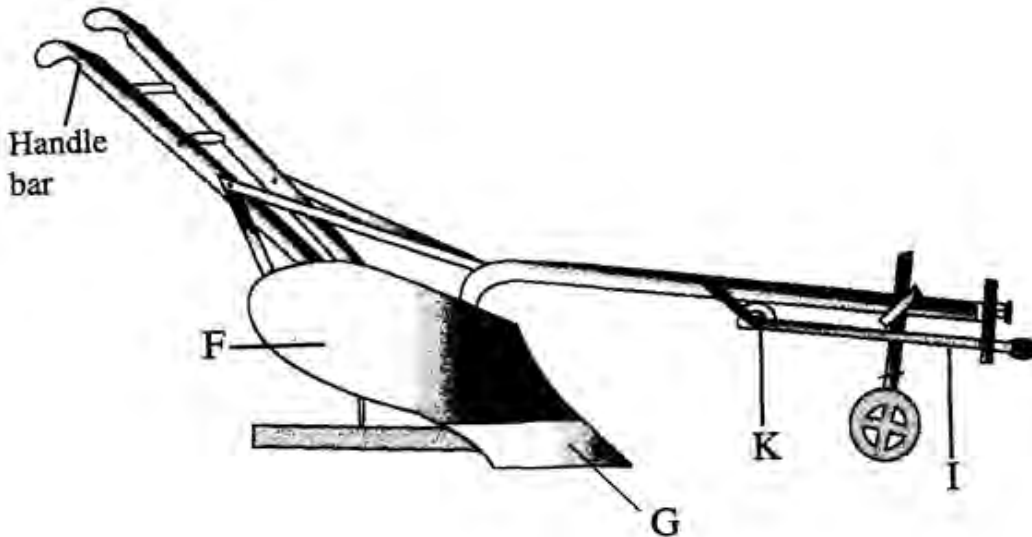


- a) Identify the type of gate shown. (1 mark)
 - b) Name parts labeled D and E. (2 marks)
 - c) i) State two functions of the part labelled E. (2marks)
 - ii) State two functions of the gate illustrated above. (2 marks)
19. The diagram below illustrates a calf rearing practice.



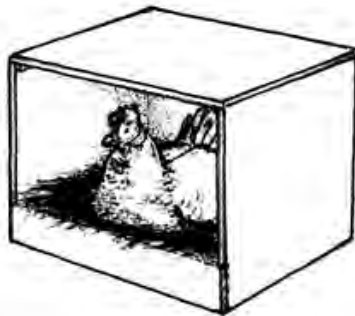
- a) Identify the practice illustrated above. (1 mark)
- b) i) Describe the procedure followed in the feeding practice named in (a) above. (3 marks)
- ii) Give two precautions taken while using the rearing practice stated in (a) above. (2 marks)

20. Study the diagram below of an ox-plough and use it to answer the questions that follow.



- a) Give the functions of parts G and F (2mark)
- b) Name the parts labelled K and I (2mark)
- c) Mark on the diagram using letters M and N the two parts used to adjust the depth of ploughing. (1mark)

21. The diagram below shows a hen sitting on eggs. Use it to answer the questions that follow.



- a) Name the method of incubation illustrated above. (1mark)
- b) Give **two** signs that may show that the hen is ready to sit on the eggs. (1marks)

SECTION C (20 MARKS)

Answer ANY TWO questions in the spaces provided after question.

- 22. a) Describe brucellosis under the following subheadings:
 - i) Causal organism (1mark)
 - ii) Transmission (1mark)
 - iii) Symptoms (4mks)

- iv) Control measures (4mks)
- b) State the function of any five parts of a zero grazing unit in dairy farming. (5mks)
- c) Explain **five** factors that should be considered when choosing tools and equipment touse in the farm. (5mks)
- 23 a) Outline the control measures of mastitis. (5marks)
- b) Describe the marketing of eggs. (10marks)
- c) Outline the general characteristics of chinchilla breed of rabbits. (5marks)
- 24. a) Give the differences between a petrol and a diesel engine (10mks)
- b) Describe the daily maintenance of a tractor (10mks)

KIGUMO CLUSTER MOCK EXAMINATIONS

443/1

AGRICULTURE PAPER 1

JULY/AUGUST 2023

SECTION A:30 MARKS -ANSWER ALL QUESTIONS IN THIS SECTION

1. List two activities that make agriculture to be regarded as
 - i) an art. (1 Marks)
 - ii) a science. (1 Marks)
2. State two conditions where shifting cultivation is applicable. (1 Marks)
3. Give two ways in which ill-health affects agricultural production. (1 Marks)
4. State four polices used by the Kenyan government that help promote local agriculture production. (2 Marks)
5. Name two aspects of rainfall that influences crop distribution in Kenya. (2marks)
6. State two effects of strong wind on agricultural production. (1 Marks)
7. State two ways in which amount of light harnessed by crops can be increased (1 Marks)
8. State three ways of modifying soil pH. (1 ½Marks)
9. Give four ways in which soil depth affects crop production. (2Marks)
10. Give two reasons why land should be prepared early before the onset of rains. (2Marks)
- 11 State four factors that determine the number of times secondary cultivation is done. (2Marks)
12. Give one reason why each of the following operations are carried out in crop production
 - i) ridging. (½ Marks)
 - ii) Rolling. (½ Marks)
 - iii) Levelling. (½ Marks)
 - iv) minimum tillage. (½ Marks)
13. a) Give two reasons for treating water in the farm before use. (1Marks)
- b) Name one way of making water safe for human consumption. (½ Marks)
14. a) State two reasons for draining water-logged soils. (1Marks)
- b) State two advantages of drip irrigation. (1 Marks)
- 15 a). State two ways in which burning of vegetation cover leads to loss of soil fertility. (1Marks)
- b) List down two ways of restoring soil fertility. (1Marks)
- 16 a). List one use of inventory records kept in a farm. (½ Marks)
- b). List two details recorded in a field record. (1 Marks)
- c). Give one reason why farmers should keep health records. (½ Marks)
17. State two advantages of organic manure over straight fertilizers. (1Marks)
18. Differentiate between nitrogen fixation and phosphorous fixation. (1Marks)
19. Differentiate between oligopoly and monopsonistic markets. (1Marks)
20. State two functions of Pyrethrum Board of Kenya. (1Marks)

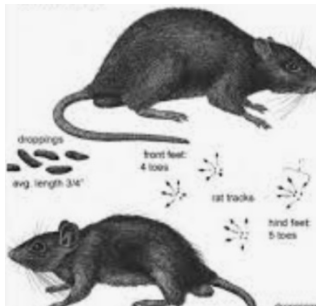
SECTION B:20 MARKS ANSWER ALL THE QUESTIONS IN THIS SECTION

21. A farmer applied 200 kgs of a compound fertilizer 20:10:10 to a tomato crop from transplanting instead of the recommended 100 kgs by his agricultural extension officer. The tomato crop obtained looked as shown in the diagram below.

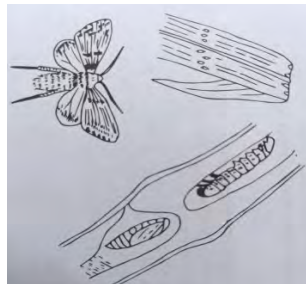


- i) What does 10 and 10 in sequence refer to in the fertilizer 20:10:10 (2 Marks)
 10.....
 10.....
- ii) Name the condition of the tomato fruits shown (1 Marks)
- iii) Name an element deficient in the soil that causes the condition named above. (1 Marks)
- iv) Give one way of correcting the condition observed in the fruits other than supplying the deficient mineral element and correct amount of fertilizer application. (1 Marks)

22. The diagrams below show various pests. Study them carefully and answer the questions that follow.



A



B



C

- a) Classify pest A according to where they affect agriculture (1 Marks)
- b) State the damage caused by pest C (1 Marks)
- c) State three ways of controlling pest B (3 Marks)

23. The diagrams below show various practices carried out in trees .Study them carefully and answer the questions that follow.

A

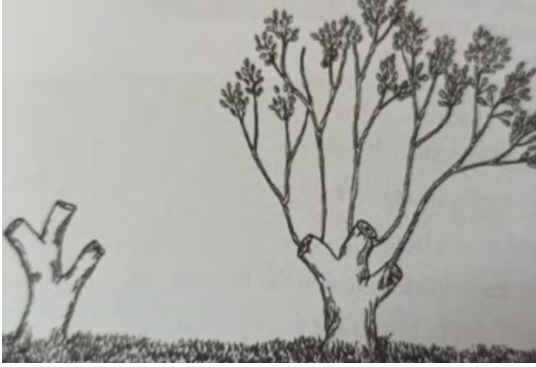


B

C



D



- i) Name the tree harvesting methods illustrated in A, B and C (3 Mark)
- ii) State the importance of practice labeled D (1marks)
- ii) State one characteristic of trees for use in agroforestry. (1marks)
24. i) Draw a partial budget for UKWELI SECONDARY SCHOOL 4 hectare farm using the information below to show the effect of the intended changes.
- 1.5 hectares is under oats, 0.5 hectares is under maize, 0.3 hectares is under Napier grass while the rest is under natural grass.
- The farm manager wishes to know if replacing 0.3 hectares of maize with potatoes the following season would be worthwhile.
- The fertilizer rate would have to be increased from 2 bags per hectare initially for maize to 2.5bags per hectare for potatoes and an extra 40 man-days of casual labour paid at the rate of 150/=per man-day per hectare for the changes. The yield for maize is 56 bags that sell at 1200/= while the yield for potatoes is 90 bags per hectare and sells at 300/=.
- The manager requires one 10 kg bag of maize seed to cover the 0.3 hectare that sell at 1350.00.
- The manager would require 10 bags of potato seed packed in 50 kg bags selling at 200/=.
- ii) State if it's worthwhile to effect the change. (1 Mark)

SECTION C:40 MARKS-ANSWER ANY TWO QUESTIONS IN THIS SECTION

25. a) Explain four factors that determine seed rate. (4Marks).
- b). Explain three considerations when designing a crop rotation Programme. (6Marks)
- c). Explain five factors that determine the stage in which crops are harvested. (5Marks)
- d) Explain five factors affecting the demand of a commodity in the market. (5 marks)
26. a) Describe maize production under the following sub-headings.
- i) Land preparation. (3Marks)
- ii) Field pest and their control. (4Marks)
- b i) State three disadvantages of communal land tenure system. (3Marks)
- ii) State two conditions that must be met for a settlement scheme to be successful. (2 Marks)
- c) Explain four ways in which labour productivity can be increased. (4 Marks)
- d) State three qualities that a good manager should possess. (3 Marks)
27. a) Explain three cultural methods used to control soil erosion. (3 Marks)
- b) Explain three effects of mass wasting. (6 Marks)
- c) Explain three environmental factors affecting the effectiveness of herbicides. (3 Marks)
- d). Explain three ways in which pests can be classified. (3 Marks)
- e). State three advantages of preserving forage in form of silage. (3 Marks)

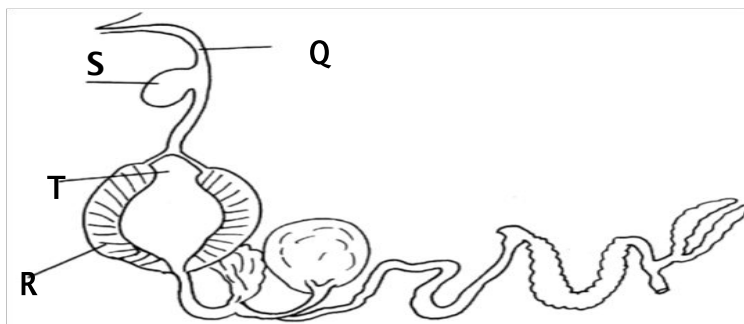
KIGUMO CLUSTER MOCK EXAMINATIONS
443/2
AGRICULTURE PAPER 2
JULY/AUGUST 2023

SECTION A-(30 Marks) ANSWER ALL QUESTIONS IN THIS SECTION

1. Give the terms used to describe the young one of the following livestock (1 Mark)
 Rabbit –.....
 Goat –.....
2. a). Name a dual purpose cattle breed reared in Kenya (1/2 Mark)
 b) Name a pig breed with the following features (1/2 Mark)
 White body colour, erect ears, dished snout, big in body size
 c) Name the breed of livestock described below.
 i) Sheep breed which is white in colour with a black head, the body covering is of wool like hair (1/2 Mark)
 ii) A goat breed which is brown with two white stripes running from the eyes to the nose (1/2 Mark)
3. Identify four physical characteristics of beef cattle. (2Marks)
4. Name two complementary livestock production tools and equipment (2Marks)
5. State two importance of keeping livestock healthy. (1 Mark)
6. Differentiate between tactical and strategic treatment. (2Marks)
7. List four predisposing factors to livestock diseases (2Marks)
8. State four ways in which vaccines are administered to livestock animals (2Marks)
9. Give four ways in which diseases can be spread from one animal to another within the farm (2 Marks)
10. State four precautionary measures in handling and caring of vaccines (2 Marks)
11. State four non-chemical methods of controlling ticks in cattle (2 Marks)
12. State two factors which determine the digestibility of a feedstuff. (1 Mark)
13. Give two signs of heat observed in female rabbit (1 Marks)
14. Give two disadvantages of outcrossing (1 Marks)
15. Give two advantages of embryo transplant in livestock breeding (1 Marks)
16. Give four reasons for feeding Colostrum to calves immediately after birth. (2 Marks)
17. State four structural requirements of a calf pen (2 Marks)
18. State four conditions that cause bees to swarm. (2 Marks)

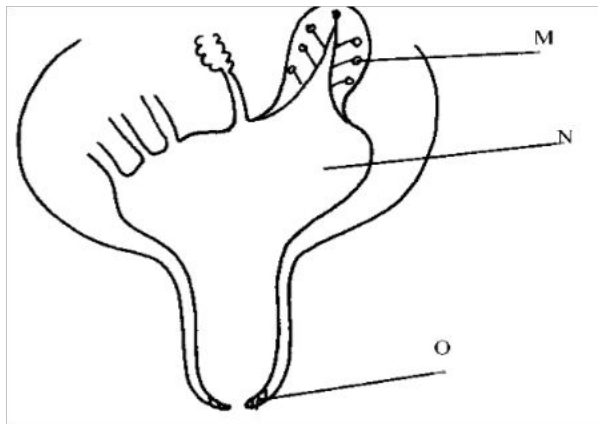
SECTION B- (30 Marks) ANSWER ALL QUESTIONS IN THIS SECTION.

19. A farmer wanted to prepare a 200kg of calf rearing ration containing 20% DCP. Using the Pearson's Square Method, calculate the amount of Maize containing 10% DCP and Sunflower containing 35% DCP the farmer would need to prepare the ration. (Show your working) (5 marks)
20. a) The following is a diagram showing part of the poultry's digestive system. Use it to answer the questions that follow.



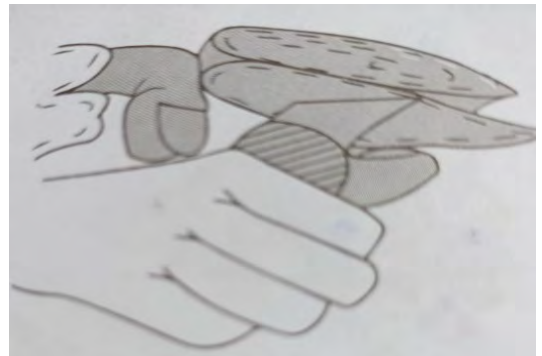
- i) Name the parts labeled Q, S, and T (1 1/2 Marks)
- ii) Give two structural adaptations of part labeled R to its functions. (1 Marks)

b) The diagram below is a structure of a part of a cow's udder

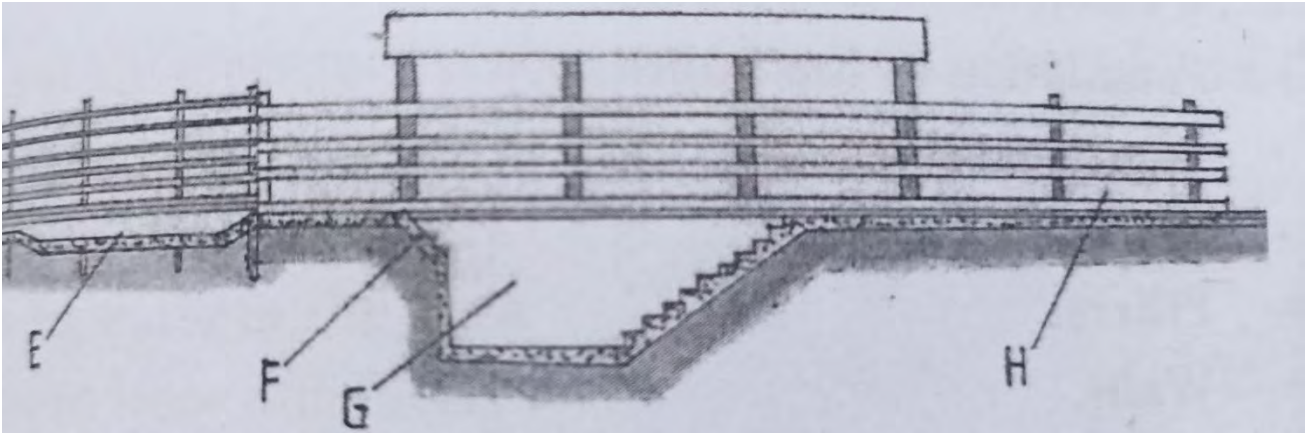


- i) Name the parts labelled M, N, and O on the diagram above (1 1/2 Marks)
 - ii) State the functional difference between the following hormones which influence milk let-down; (1Mark)
- OXYTOCIN*.....
- ANDRENALINE*.....

21. The diagrams below show a livestock management practice. Study it carefully and answer the questions that follow.

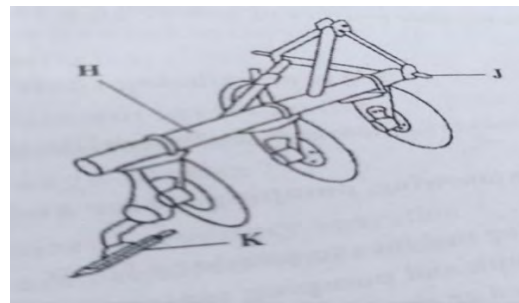
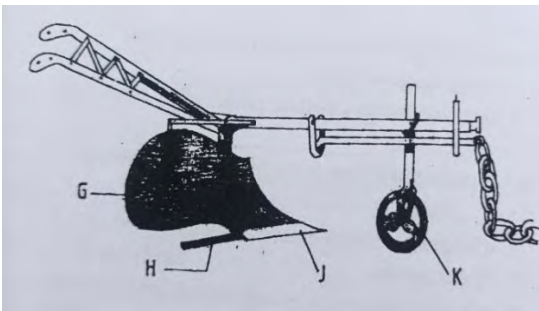


- a) Name the practice (1/2 marks)
- b) Name one tool used to carry out the practice (1/2 Mark)
- c) Give one reason for carrying out the practice (1/2 Marks)
- d) The diagram below shows a farm structure where the above practice is prevented and controlled among other routine management practices. Study it carefully and answer the questions that follow.



- i) Using a letter and then name, indicate the part in the structure where the routine practice above is carried out (1/2Mark)
- ii) Name parts F and G (1Mark)
- iii) State the function of part labelled H (1Mark)
- iv) Name one chemical substance used in the part named in (i) above. (1Mark)

22. The diagram below show various farm machinery.



- i) Name parts G,H,J ,K in diagram A. (2 Mark)
- ii) State the function of part J in diagram B. (1Mark)
- iii) State the maintenance practise carried out on part labelled K in diagram B (1Mark)
- iv) State one operational advantage of implement B over a mouldboard plough. (1Mark)

SECTION C:40 MARKS-ANSWER ANY TWO QUESTIONS IN THIS SECTION

23. a) Describe the procedure of training a calf to take milk from a bucket (5 Marks)
- b) Outline the procedure followed when hand-spraying cattle to ensure effective use of liquid acaricide to control ticks (6 Marks)
- c) Discuss Foot Rot disease under the following sub headings
 - i) Causal Organism (1Mark)
 - ii) Predisposing factors (3 Mark)
 - iii) Symptoms of attack (3 Mark)
 - iv) Control Measures (2Mark)
24. a) State four factors to consider when siting a farm structure (5Marks)
- b) Describe three parts of a barbed wire fence (3 Marks))
- c) State four characteristics of eggs suitable for incubation (4 Marks)
- d) State four advantages of free range system (4 Marks)
- e) State four factors that increase the production of optimum animal power (4 Marks)
25. a) State and explain five factors that are considered when selecting a breeding stock (5 Marks)
- b) Describe five factors affecting composition of milk (10 Marks)

- c) State the maintenance practices of the trailer

– (1X5=5 Marks)

MWAKICAN FORM 4 JOINT EXAMINATION 2023

443/1

AGRICULTURE PAPER ONE

SECTION A (30 MARKS)

Attempt all the questions in this section

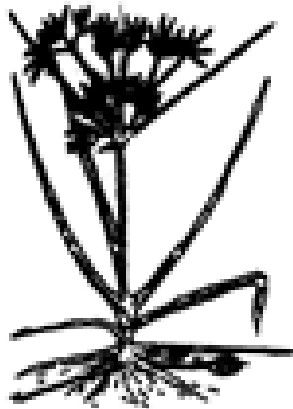
1. (a) State three forms of horticultural farming (1 $\frac{1}{2}$ mks)
 (b) Name four biotic factors which influence agriculture. (2mks)
2. State four agricultural practices that enhance minimum tillage. (2mks)
3. Give three farming conditions under which opportunity cost is equal to zero. (1 $\frac{1}{2}$ mks)
4. State four roles of nitrogen in plants. (2mks)
5. Name the vegetative plant part used to propagate each of the following plants.
 - (a) Cassava ($\frac{1}{2}$ mk)
 - (b) Sisal ($\frac{1}{2}$ mk)
 - (c) Pyrethrum ($\frac{1}{2}$ mk)
 - (d) Pineapple ($\frac{1}{2}$ mk)
6. State four pieces of information contained in Land title deed. (2mks)
7. State four types of soil erosion by water. (2mks)
8. State two ways in which check dams helps in conserving soil. (2mks)
9. State five factors that contribute to competitive ability of weeds. (2 $\frac{1}{2}$ mks)
10. Give the meaning of the following terms as used in crop production.
 - (a) Hardening off (1mk)
 - (b) Integrated pest management (1mk)
 - (c) Minimum tillage. (1mk)
11. Give three factors that determine time of harvesting crops. (1 $\frac{1}{2}$ mks)
12. State three causes of blossom-end-rot in tomatoes. (1 $\frac{1}{2}$ mks)
13. State four ways in which crop pests are classified. (2mks)
14. Give two reasons for conserving forage. (1mk)
15. State the three main silage losses. (1 $\frac{1}{2}$ mks)

SECTION B (20 MARKS) ATTEMPT ALL QUESTIONS IN THIS SECTION.

16. a) A farmer was advised to apply 60kgN, 20kg P₂O₅ and 30kg K₂O per hectare. Calculate the quantity of urea (46% N), Singe super phosphate (20% P₂O₅) and Muriate of potash (50% K₂O) the famer should apply on his 10 hectares land. (3mks)
 b) Name the two liming elements? (2mks)
17. The diagram below shows a soil borne pest that attack plant roots.



- (a) Identify the pest (1mk)
 (b) State two symptoms of attack by the pest in tomato production. (2mks)
 (c) State two control measures of the pest. (2mks)
18. The diagram below shows a weed.



- (a) Identify the weed. (1mk)
 (b) Using features on the diagram, give two reasons why it is difficult to eradicate the above the weed. (2mks)
 (c) State two ways in which the weed is economically important. (2mks)
19. A farmer has a piece of land 200m long and 36m wide. If the farmer plants beans at a spacing of 30cm × 15cm, calculate the plant population on the piece of land. Show your working. (5mks)

SECTION C: (40 MARKS) ATTEMPT TWO QUESTIONS IN THIS SECTION

20. (a) Describe the cultural methods of conserving soil and water. (8mks)
 (b) Describe five advantages of carrying out mulching in crop production. (5mks)
 (c) Describe the uses of farm records. (7mks)
21. (a) Give five reasons why land consolidation should be encouraged in Kenya. (5mks)
 (b) Describe seven harmful effects of crop pests. (7mks)
 (c) Explain four methods of breaking seed dormancy. (8mks)
22. (a) Describe production of tomatoes under the following sub-headings.
 (i) Nursery establishment. (7mks)
 (ii) Transplanting of seedlings (8mks)
 (b) State five precautions to be observed while harvesting pyrethrum. (5mks)

**MWAKICAN JOINT EXAMINATION (MJET)
 443/2
 AGRICULTURE PAPER 2**

SECTION A (30 MARKS)

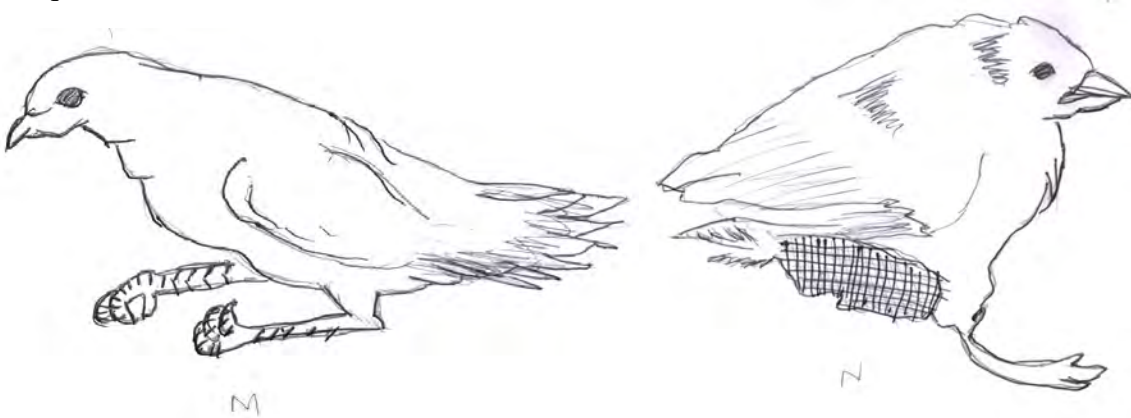
Answer ALL Questions in the Spaces Provided

1. State four qualities of eggs for incubation. (2mrks)
 2. State four factors that influence the quality of bricks. (2 Marks)
 3. Give four functions of vitamins in livestock production. (2 Marks)
 4. State 4 factors affecting milk composition. (2mrks)
 5. Name 2 channels through which a beef farmer can market his product in Kenya. (1mrk)
 6. Give two characteristics of a good creep feed. (1 Mark)

7. State two uses of pick axe. (1 Mark)
8. Give two reasons of holding animals for a short period in the outlet crush after dipping. (1 Marks)
9. i) State two reasons for culling breeding boer. (1 Mark)
 ii) Differentiate between ringing and crutching in sheep production. (1 Mark)
10. What is the functional difference between cold chisel and wood chisel? (2Marks)
11. State two characteristics of goats that make them adaptable to arid-areas of Kenya. (1 Marks)
12. Name two methods of harvesting fish. (1Mark)
13. List two tools you would require when smoothening concrete walls during plastering. (1mk)
14. Give four dairy characteristics possessed by a typical Friesian cow. (2mks)
15. Name four advantages for artificial bucket feeding in calf rearing. (2mks)
16. Give four reasons for flushing in sheep production (1mk)
17. State four factors to consider when siting a fish pond (2mks)
18. Give four functions of a lubrication system in an engine (2mks)
19. Define the following terms as used in livestock production. (2mks)
 - bullock
 - cockrel
 - Gilt
 - nanny
20. State the function of the guard rails in a furrowing pen (1mks)

Section B 20marks

21. Diagram M illustrates chicks suffering from some essential feed nutrients. Study the diagrams and answer the questions that follow.



- a) Outline the deficient nutrient in M and N. (2 Marks)
- b) i) Outline one method in each case to control the conditions in M and N. (2 Marks)
 ii) Name two meat breeds of goats?
22. Study the photography below of sources of power in the farm and answer the question that follow
 a) Identify the sources of power A and B (2mks)



A

B

- b) Give four disadvantages of using A as a source of power in agricultural activities (4mks)

23. The diagram below shows a rearing practice in livestock production.



- a) Name the method of routine practice shown in the diagram above. (1mk)
 b) Describe the procedure used to carry out the routine practice identified in (a) above.(4mks)
 c) Give the importances of carrying out the above practice (3mks)

SECTION C)40 MARKS

24. a) outline the importance of feeding the calf with colostrum . (5 Marks)
 b) Give five advantages of Kenya Top Bar Hive. (5 Marks)
 c) Outline ten differences between deep litter system of rearing birds and battery cage system of rearing birds (10mks)
25. a) Describe five factors that a farmer should consider when selecting materials for constructing a dairy cattle shed (10mks)
 (b) Explain five reasons for inbreeding in livestock production (10mks)
26. (a) Outline the Procedures of bull castration using burdizzo. (6mks)
 (b) Describe predisposing factors to livestock disease. (10 mrks)
 (c). Outline four reasons for seasoning timber before use. (4mks)

MURANG'A SOUTH

443/1

AGRICULTURE PAPER 1

SECTION A (40 MKS)

ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

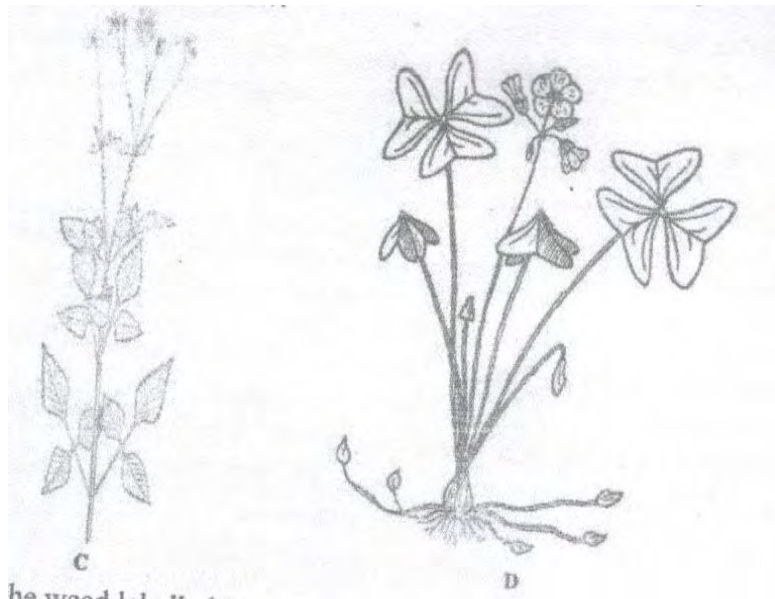
1. Name three forms of horticulture practiced in Kenya (3 mks)
2. State four conditions when land cleaning should be done (4mks)
3. Give four reasons for treating water before use (4mks)
4. State four factors to consider when siting a compost manure pit (4mks)
5. Give three reasons why farmers should keep health records (3mks)
6. State two functions of potassium in plants (2mks)
7. State four post-harvesting management practices carried out on various crops (4mks)
8. State four advantages of communal land tenure system (4mks)

9. (a) What is soil erosion (1mk)
- (b) State four factors influencing soil erosion (2mks)
10. State four qualities of good silage (2mks)
11. State three roles of soil microorganisms (1 ½ mks)
12. State four methods that can be used to clear land (4mks)
13. State four importance of soil PH to crops (2mks)
14. Name three crops propagated by use of suckers (1 ½ mks)
15. State two limitations of tissue culture in crop production (1mk)
16. Give four benefits of mulching (2mks)

SECTION B (20 MKS)

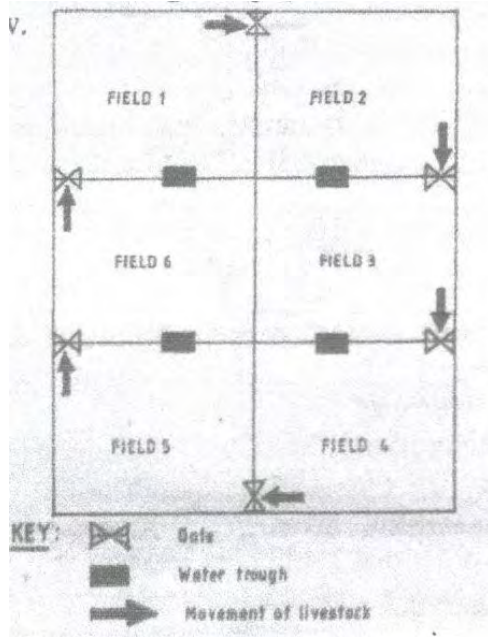
ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

17. The diagrams below illustrate common weeds in arable land. Study them carefully and answer the questions that follow

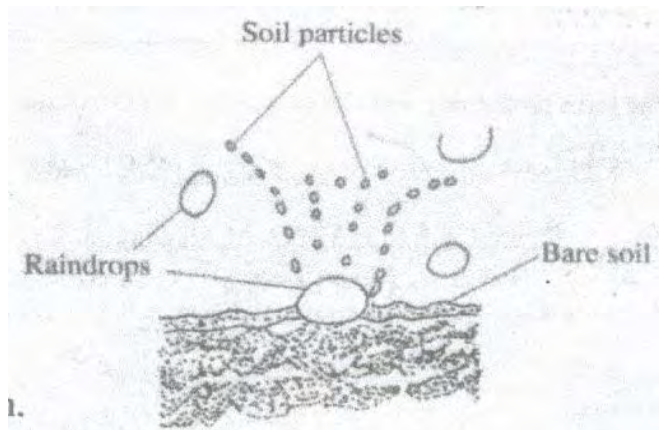


- a) Identify the weed labeled D (1mk)
- b) Classify the weed labeled C according to plant morphology (1mk)
- c) Give one reason why it is difficult to control the weed labeled D (1mk)
- d) State two cultural ways of controlling couch grass (*Digitaria scalarum*) (2mks)

18. The diagram below illustrates a grazing system. Study it carefully and answer the questions that follow



- a) Identify the grazing system illustrated above (1mk)
 - b) State your advantages of the grazing system illustrated above (4mks)
19. A farmer is advised to apply 60kg (N) , 20kg P₂O₅ and 30kg K₂O per hectare. Calculate the quantity of urea (46%N) , single superphosphate (20%P₂O₅) and mutiate of potash (50% K₂O) the farmer should apply on his 10 hectares land (5mks)
20. The diagram below illustrates a type of soil erosion



- a) Identify the type of erosion (1mks)
- b) How does the type of erosion shown above occur? (2mks)
- c) How does cover cropping help control the type of erosion shown above (2mks)

SECTION C (40 MKS)

ANSWER ANY TWO QUESTIONS

- 21. (a) Discuss six biotic factors that influence agricultural production (6mks)
- (b) Describe four methods of breaking seed dormancy (4mks)
- (c) Describe five nursery management practices (5mks)
- (d) Explain five reasons why use of chemicals to control pests should be discouraged(5mks)
- 22. (a) Describe the harvesting of pyrethrum (5mks)

- (b) State four precautions when harvesting pyrethrum (4mks)
 - (c) Explain six cultural methods of disease control (6mks)
 - (d) Explain five methods of water harvesting (5mks)
23. (a) Describe carrot production under the following sub-headings
- (i) Field management practices (3mks)
 - (ii) Land Preparation (3mks)
- (b) Explain five factors that determine the stage in which crops are harvested (3mks)
 - (c) Explain four factors determining the depth of planting (4mks)
 - (d) Describe five effects of strong wind on agricultural production (5mks)

MURANG'A SOUTH

443/2

AGRICULTURE PAPER 2

SECTION A (30 MKS)

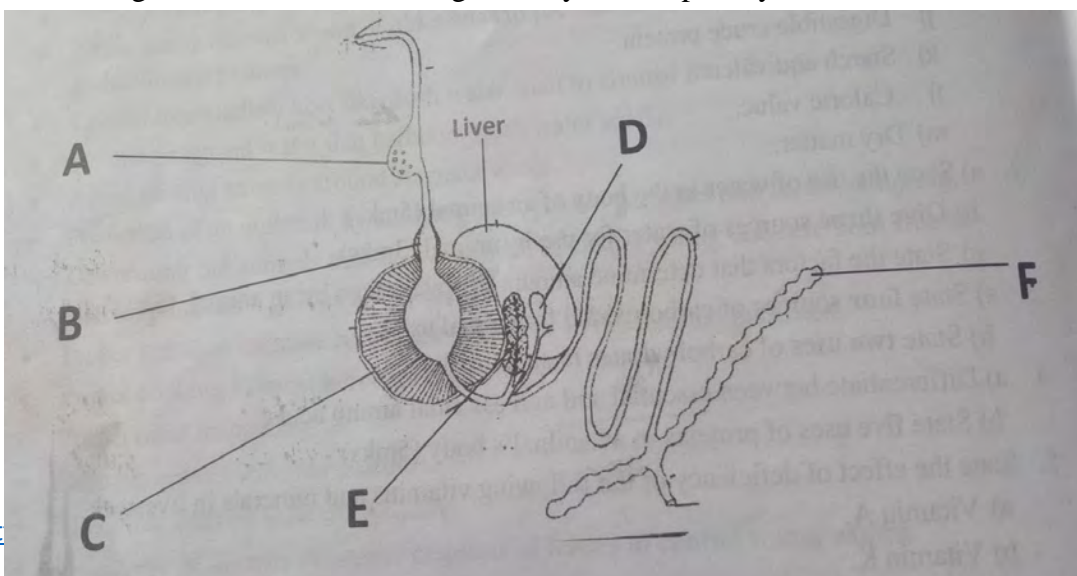
ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

1. List four cattle diseases caused by viruses (4mks)
2. State four non-mechanical methods of controlling ticks in cattle (4mks)
3. State four signs of heat in cattle (4mks)
4. Mention three reasons why bees swarm (3mks)
5. State five possible sources of power on a farm (5mks)
6. Name four beef cattle breeds reared in Kenya (2mks)
7. Give four cultural uses of livestock (2mks)
8. Give four ways through which the health of an animal can be restored (2mks)
9. List any four causes of livestock diseases (2mks)
10. Differentiate between vectors and parasites as used in livestock health (2mks)
11. State four symptoms of ecto-parasites in poultry production (2mks)
12. List four factors considered when formulating livestock ratio (2mks)
13. Define the following terms as used in livestock production (4mks)
 - a) Embryo transfer
 - b) Artificial insemination
 - c) Line breeding
 - d) Cross breeding
14. State four materials that can be used in the construction of a Kenya top bar hire (2mks)

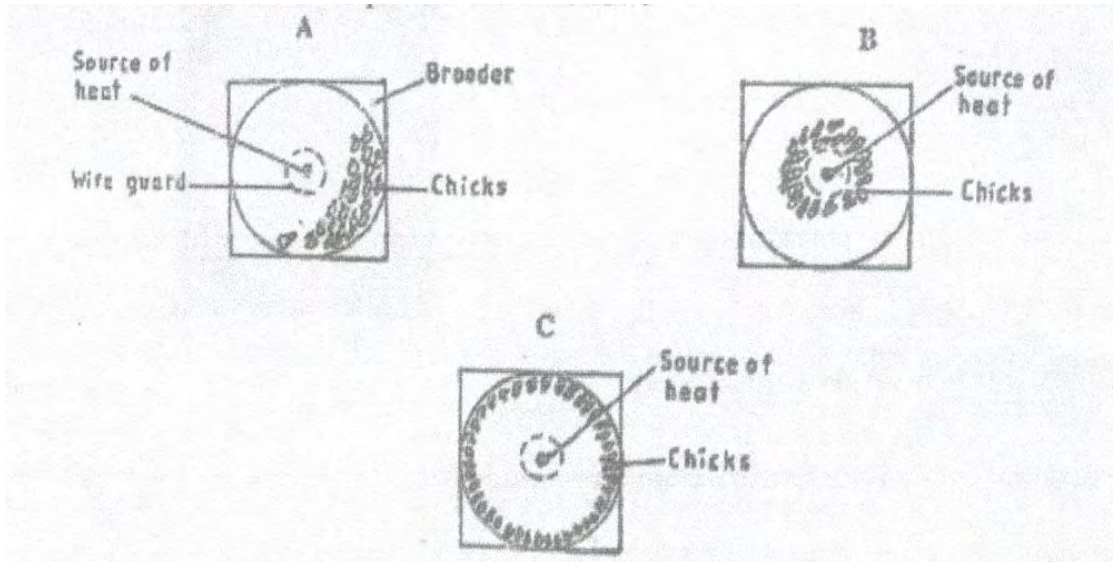
SECTION B (20 MKS)

ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

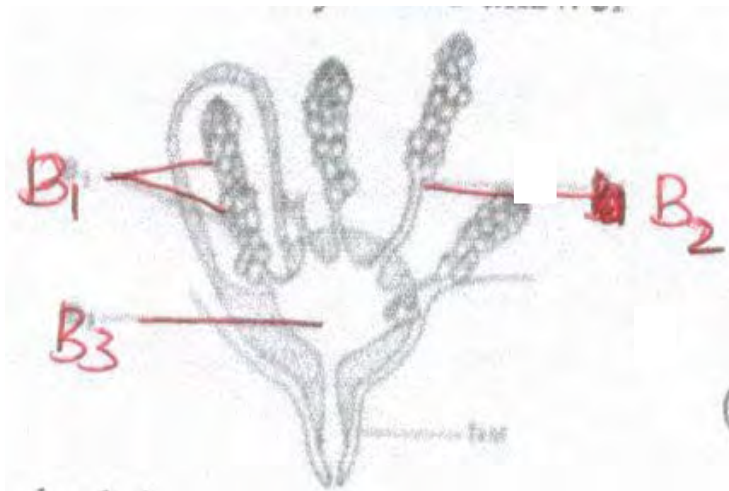
15. The diagram below shows the digestive system of poultry



- a) Name the parts labeled A to F (3mks)
 b) How is the part labeled C adapted to perform its function (2mks)
 c) State the use of the parts labeled A, B, C and F (2mks)
16. The following illustrations show the behavior of chicks in a brooder. Study them carefully and answer the questions that follow

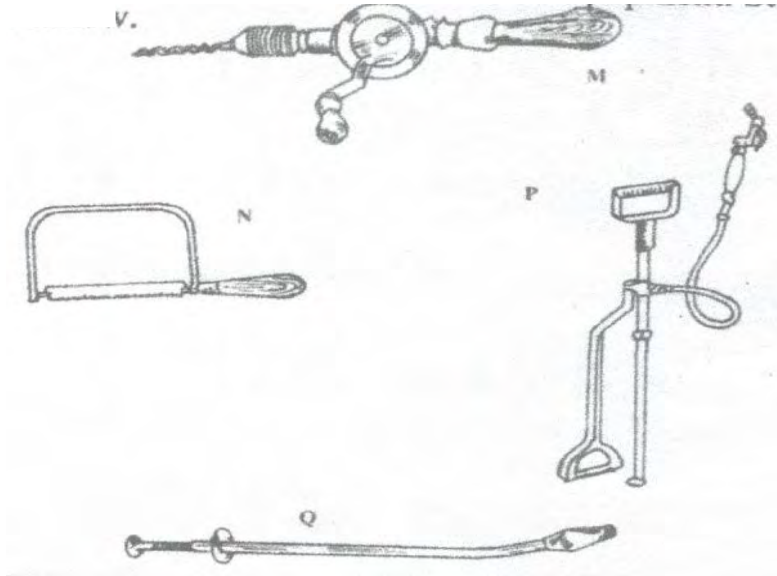


- a) Explain the cause of the behavior observed in chick for each of the illustrations labeled A, B and C (3mks)
 b) Give a reasons for making the brooder wall round in shape (1mk)
17. The diagram below shows a cross section of an udder. Study it and answer the questions that follow



- a) Identify the parts labeled B₁B₂ and B₃ (3mks)
 b) Give one function of the part labeled B₁ (1mk)

18. The diagram below represents some farm tools and equipment. Study them and answer the questions that follow



- (a) Identify the tools labeled N and P (2mks)
- (b) State one use of each of the tools labeled M and Q (2mks)
- (c) Explain three maintenance practice carried out on the equipment labeled P (3mks)

SECTION C (40 MKS)

ANSWER ANY TWO QUESTIONS IN THIS SECTION

- 19. (a) Describe causes of stress in a flock of layers (7mks)
- (b) Describe management practices carried out to ensure clean milk production (8mks)
- (c) State the disadvantages of using live fences on a farm (5mks)
- 20. (a) Describe the causes of low egg production in layers (10mks)
- (b) Discuss bloat disease under the following sub-headings
 - (i) Species of the animals affected by the disease (2mks)
 - (ii) Causes of the disease (2mks)
- (c) Symptoms of the disease (2mks)
- (d) Control measures of the disease (2mks)
- (e) Treatment of the disease (2mks)
- 21. (a) Describe the procedure of hand milking in a dairy cow (10mks)
- (b) Explain how the incubator should be managed for higher hatchability (5mks)
- (c) Give the functions of any five parts of a poultry egg (5mks)
 - (i) The shell
 - (ii) Albumen / Egg white
 - (iii) Chalaza
 - (iv) Yolk
 - (v) Air Space
 - (vi) Shell membrane

